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Chaining over the Sand Hills to Lake Torrens.

NARRATIVE

OF AN

EXPEDITION

INTO

CENTRAL AUSTRALIA,

PERFORMED

Under the Authority of Her Majesty's Government,

DURING

THE YEARS 1844, 5, AND 6.

TOGETHER WITH A NOTICE OF THE

PROVINCE OF SOUTH AUSTRALIA,

IN 1847.

BY

CAPTAIN CHARLES STURT, F.L.S. F.R.G.S.

ETC. ETC.

AUTHOR OF "TWO EXPEDITIONS INTO SOUTHERN AUSTRALIA."

IN TWO VOLUMES.

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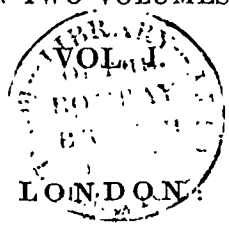

VOL. I.

LONDON:

T. AND W. BOONE, 29, NEW BOND STREET.

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TO THE

RIGHT HONORABLE THE EARL GREY,

ETC. ETC. ETC.

My Lord,

Although the services recorded in the following pages, which your Lordship permits me to dedicate to you, have not resulted in the discovery of any country immediately available for the purposes of colonization, I would yet venture to hope that they have not been fruitlessly undertaken, but that, as on the occasion of my voyage down the Murray River, they will be the precursors of future advantage to my country and to the Australian colonies.

Under present disappointment it must be as gratifying to those who participated in my labours, as it is to myself to know that they are not the less appreciated by your Lordship, because they were expended in a desert.

I can only assure your Lordship, that it has been

my desire to give a faithful description of the country that has been explored, and of the difficulties attending the task; nor can I refuse myself the anticipation that the perusal of these volumes will excite your Lordship's interest and sympathy.

I have the honour to be,

My Lord,

Your Lordship's

Most obedient humble servant,

CHARLES STURT.

London, November 21, 1848.

NOTICE.

It might have been expected that many specimens, both of Botany and Ornithology, would have been collected during such an Expedition as that which the present narrative describes, but the contrary happened to be the case.

I am proud in having to record the name of my esteemed friend, Mr. Brown, the companion of Flinders, and the learned author of the "Prodromus Novæ Hollandiæ," to whose kindness I am indebted for the Botanical Remarks in the Appendix.

To my warm-hearted friend, Mr. Gould, whose splendid works are before the Public, and whose ardent pursuits in furtherance of his ambition, I have personally witnessed, I owe the more perfect form in which my ornithological notice appears.

I have likewise to acknowledge, with very sincere feelings, the assistance I have received from Mr. Arrowsmith, in the construction of my Map, to whose anxious desire to ensure correctness and professional talent I am very greatly indebted.

I hope the gentlemen whose names I have mentioned will accept my best thanks for the assistance they have afforded me in my humble labours. It is not the least of the gratifications enjoyed by those who are employed on services similar to which I have been engaged, to be brought more immediately in connection with such men.

London, November 21, 1848.

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Mr. Arrowsmith has prepared a large Map of Captain Sturt's routes into the centre of Australia, from the original protractions and other official documents, now in his hands.

On this Map are delineated the whole of the details resulting from his numerous routes,— the dates marking his daily progress—the description of the country—its dip—the depressed Stony Desert, which is probably the great northern prolongation of the Torrens Basin of Mr. Eyre,—&c. &c. &c.

This Map in two sheets may be had in a cover, price 7*s*.

PREFACE.

THE prominent part I have taken in the furtherance of Geographical Discovery on the Australian continent, and the attention, it will naturally be supposed, I have paid to the subject generally, will lead the reader perhaps to expect that I should, at the commencement of a work such as this, put him in possession of all the facts, with which I myself am acquainted, as to the character of those portions of it, which had been explored, before I commenced my recent labours. This may reasonably be expected from me by my readers, not only to enable them to follow me into the heartless desert from which, it may still be said, I have so lately returned, with that distinctness which can alone secure interest

to my narrative; but, also, to judge whether the conclusions at which I arrived, and upon which I acted, were such as past experience ought to have led me to adopt.

It has struck me forcibly that such information would undoubtedly be desirable, not only to render my own details clearer, but to explain my views, since I should exceedingly regret that any imputation of rashness or inconsistency were laid to my charge; or if it was thought, I had volunteered hazardous and important undertakings, for the love of adventure alone.

The field of Ambition, professionally speaking, is closed upon the soldier during the period of his service in New South Wales. Had it been otherwise, however, no more honourable a one could have been open to me, when I landed on its shores in 1826, than the field of Discovery. I sought and entered upon it, not without a feeling of ambition I am ready to admit, for that feeling should ever pervade the breast of a soldier, but also with an earnest desire to promote the public good, and certainly without the hope of any other reward than the credit due to successful enterprise. I pretend not to science, but I am a lover of it; and to my own exertions, during

past years of military repose, I owe the little knowledge I possess of those branches of it, which have since been so useful to me.

It will not be deemed presumptuous in me, I trust, to express a belief that the majority of my readers will find much to interest them in the perusal of this work; which I publish for several reasons—firstly, in the hope, that a knowledge of the extremities to which I was driven, and of the unusual expedients to which I was obliged to resort, in order to save myself and my companions from perishing, may benefit those who shall hereafter follow my example; secondly, that as I published an account of my former services, my failing to do so in the present instance might be taken as evidence that I lacked the moral firmness which enables men to meet both success and defeat with equal self-possession; and thirdly, because, I think the public has a right to demand information from those, who, like myself, have been employed in the advancement of geographical knowledge. I propose, therefore, to devote my preliminary chapter to a short review of previous Expeditions of Discovery on the Australian continent, and so to lay down its internal features, that my friends shall not lose their way.

I propose, also, to give an account of the state of South Australia when I left it in May last, for, as the expedition whose proceedings form the subject matter of these volumes, departed from and returned to that Province, such an account appears to me a fitting sequel to my narrative.

ared a detailed Map of Capt.n Sturts late Routes into the Interior. in 2 Sheets. which may be had in a cover. Price 7.s

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CAPTAIN STURT'S
Tracks & Discoveries,
on his
Various Expeditions into
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AUSTRALIA FELIX
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Port Phillip
GIPP'S LAND
Wilson Prom.t
Port Lincoln
Port Victoria
Port Murray
Port Lincoln
Spencer G.
St Vincent G.
Gt Australian Bight
Darling R.
Murray R.
Murrumbidgee R.
Lachlan R.
Macquarie R.
Hunter R.
Goulburn R.
Namoi R.
Gwydir R.
Castlereagh R.
Bogan R.
Macquarie R.
Barwon R.
Condamine R.
Victoria R.
Stuart Range
Mt Hopeless
Mt Arden
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Mt Lyell
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Mt Hardwicke
Mt Dutchman
Mt Deception
Mt Brisbane
Mt Lofty
Mt Remarkable
Mt Serle
Mt Arapiles
Mt Talbot
Mt Abrupt
Mt Misery
Mt Crawford
Mt Bryan
Mt Bryan East
Mt Hope
Mt Lofty
Flat Top Hill
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Porcupine Hill
Gawler Ra.
Barrier Ra.
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Melbourne
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Discovery B.
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Gt Sandy I.
Cape Byron
Cape Howe
Broad Top
Mt Lindesay
Mt Warning
Mt Royal
Mt Forbes
Mt Murchison
Mt Donald
Mt Brown
Mt Harris
Mt Hay
Mt Mitchell
Mt Hall
Mt Lloyd
Mt Macpherson
Mt Lyell
Mt Eyre
Mt Arden
Mt Hope

TRAVELS IN AUSTRALIA.

CHAPTER I.

CHARACTER OF THE AUSTRALIAN CONTINENT — OF ITS RIVERS—PECULIARITY OF THE DARLING—SUDDEN FLOODS TO WHICH IT IS SUBJECT—CHARACTER OF THE MURRAY —ITS PERIODICAL RISE—BOUNTY OF PROVIDENCE—GEOLOGICAL POSITION OF THE TWO RIVERS—OBSERVATIONS —RESULTS—SIR THOMAS MITCHELL'S JOURNEY TO THE DARLING—ITS JUNCTION WITH THE MURRAY—ANECDOTE OF MR. SHANNON—CAPTAIN GREY'S EXPEDITION—CAPTAIN STURT'S JOURNEY—MR. EYRE'S SECOND EXPEDITION—VOYAGE OF THE BEAGLE—MR. OXLEY'S OPINIONS—STATE OF THE INTERIOR IN 1828—CHARACTER OF ITS PLAINS AND RIVERS—JUNCTION OF THE DARLING—FOSSIL BED OF THE MURRAY—FORMER STATE OF THE CONTINENT—THEORY OF THE INTERIOR.

THE Australian continent is not distinguished, as are many other continents of equal and even of less extent, by any prominent geographical feature. Its mountains seldom exceed four thousand feet in elevation, nor do any of its rivers, whether falling internally or externally, not even the Murray, bear any proportion to the size of the continent itself. There is no reason, however, why rivers of greater magnitude, than any which have hitherto been discovered in it, should not emanate from mountains of such limited altitude, as the known mountains of that immense and sea-girt territory. But, it ap-

pears to me, it is not in the height and character of its hilly regions, that we are to look for the causes why so few living streams issue from them. The true cause, I apprehend, lies in its climate, in its seldom experiencing other than partial rains, and in its being subject to severe and long continued droughts. Its streams descend rapidly into a country of uniform equality of surface, and into a region of intense heat, and are subject, even at a great distance from their sources, to sudden and terrific floods, which subside, as the cause which gave rise to them ceases to operate; the consequence is, that their springs become gradually weaker and weaker, all back impulse is lost, and whilst the rivers still continue to support a feeble current in the hills, they cease to flow in their lower branches, assume the character of a chain of ponds, in a few short weeks their deepest pools are exhausted by the joint effects of evaporation and absorption, and the traveller may run down their beds for miles, without finding a drop of water with which to slake his thirst.

In illustration of the above, I would observe that during the progress of the recent expedition up the banks of the Darling, and at a distance of more than 300 miles from its sources, that river rose from a state of complete exhaustion, until in four days it overflowed its banks. It was converted in a single night, from an almost dry channel, into a foaming and impetuous stream, rolling along its irresistible and turbid waters, to add to those of the Murray.

There can be no doubt, but, that this sudden rise in the river, was caused by heavy rains on the mountains, in which its tributaries are to be found, for the Darling does not receive any accession to its waters below their respective junctions, of sufficient magnitude to account for such an occurrence.*

When, on the return of the expedition homewards the following year, some two months later in the season than that of which I have just been speaking, Oct. 1844, there had been no recurrence of the flood of the previous year, but the Darling was at a still lower ebb than before, and every lagoon, and creek in its vicinity had long been exhausted and waterless.† Now, it is evident, as far as I can judge, that if the rains of Australia were as regular as in other countries, its rivers would also be more regular in their flow, and would not present the anomaly they

* The principal tributaries of the Darling, are the Kindur, the Keraula, the Namoy, and the Gwydir. They are beautiful mountain streams, and rise in the hilly country, behind Moreton Bay, in lat. 27° S., and in longitude 152° E.

† It may be necessary to warn my readers that a creek in the Australian colonies, is not always an arm of the sea. The same term is used to designate a watercourse, whether large or small, in which the winter torrents may or may not have left a chain of ponds. Such a watercourse could hardly be called a river, since it only flows during heavy rains, after which it entirely depends on the character of the soil, through which it runs, whether any water remains in it or not.

A lagoon is a shallow lake, it generally constitutes the back water of some river, and is speedily dried up. In Australia, there is no surface water, properly so. called, of a permanent description.

now do, of being in a state of rapid motion at one time, and motionless at another.

But, although I am making these general observations on the rivers, and to a certain extent of climate of Australia, I would not be understood to mean more than that its seasons are uncertain, and that its summers are of comparatively long duration.

In reference to its rivers also, the Murray is an exception to the other known rivers of this extensive continent. The basins of that fine stream are in the deepest recesses of the Australian Alps—which rise to an elevation of 7000 feet above the sea. The heads of its immediate tributaries, extend from the 36th to the 32nd parallel of latitude, and over two degrees of longitude, that is to say, from the 146° to the 148° meridian, but, independently of these, it receives the whole westerly drainage of the interior, from the Darling downwards. Supplied by the melting snows from the remote and cloud-capped chain, in which its tributaries rise, the Murray supports a rapid current to the sea. Taking its windings into account, its length cannot be less than from 1300 to 1500 miles. Thus, then, this noble stream preserves its character throughout its whole line. Uninfluenced by the sudden floods to which the other rivers of which we have been speaking are subject, its rise and fall are equally gradual. Instead of stopping short in its course as they do, its never-failing fountains have given it strength to cleave a channel through the desert interior, and so

it happened, that, instead of finding it terminate in a stagnant marsh, or gradually exhausting itself over extensive plains as the more northern streams do, I was successfully borne on its broad and transparent waters, during the progress of a former expedition, to the centre of the land in which I have since erected my dwelling.

As I have had occasion to remark, the rise and fall of the Murray are both gradual. It receives the first addition to its waters from the eastward, in the month of July, and rises at the rate of an inch a day until December, in which month it attains a height of about seventeen feet above its lowest or winter level. As it rises it fills in succession all its lateral creeks and lagoons, and it ultimately lays many of its flats under water.

The natives look to this periodical overflow of their river, with as much anxiety as did ever or now do the Egyptians, to the overflowing of the Nile. To both they are the bountiful dispensation of a beneficent Creator, for as the sacred stream rewards the husbandman with a double harvest, so does the Murray replenish the exhausted reservoirs of the poor children of the desert, with numberless fish, and resuscitates myriads of crayfish that had laid dormant underground; without which supply of food, and the flocks of wild fowl that at the same time cover the creeks and lagoons, it is more than probable, the first navigators of the Murray would not have heard a human voice along its banks; but so it is, that in the wide field of nature, we see the hand of an over-

ruling Providence, evidences of care and protection from some unseen quarter, which strike the mind with overwhelming conviction, that whether in the palace or in the cottage, in the garden, or in the desert, there is an eye upon us. Not to myself do I accord any credit in that I returned from my wanderings to my home. Assuredly, if it had not been for other guidance than the exercise of my own prudence, I should have perished: and I feel satisfied the reader of these humble pages, will think as I do when he shall have perused them.

An inspection of the accompanying chart, will shew that the course of the Murray, as far as the 138° meridian is to the W.N.W., but that, at that point, it turns suddenly to the south, and discharges itself into Lake Victoria, which again communicates with the ocean, in the bight of Encounter Bay. This outlet is called the "Sea mouth of the Murray," and immediately to the eastward of it, is the Sand Hill, now called Barker's Knoll—under which the excellent and amiable officer after whom it is named fell by the hands of the natives, in the cause of geographical research.

Running parallel with its course from the southerly bend, or great N.W. angle of the Murray, there is a line of hills, terminating southwards, at Cape Jarvis; but, extending northwards beyond the head of Spencer's Gulf. These hills contain the mineral wealth of South Australia, and immediately to the westward of them is the fair city of Adelaide.

On gaining the level interior, the Murray passes

through a desert country to the 140° meridian, when it enters the great fossil formation, of which I shall have to speak hereafter. In lat. 34°, and in long. 142°, the Darling forms a junction with it; consequently, as that river rises in latitude 27°, and in long. 152°, its direct course will be about S.W. There is a distance of nine degrees of latitude, therefore, between their respective sources, and, as the Darling forms a considerable angle with the Murray at this junction, it necessarily follows, as I have had occasion to remark, that the two rivers must receive all the drainage from the eastward, falling into that angle. If I have been sufficiently clear in explaining the geographical position and character of these two rivers, which in truth almost make an island of the S.E. angle of the Australian continent, it will only remain for me to add in this place, that neither the Murray nor the Darling receive any tributary stream from the westward or northward, and at the time at which I commenced my last enterprise, the Darling was the boundary of inland discovery, if I except the journey of my gallant friend Eyre, to Lake Torrens, and the discovery by him of the country round Mount Serle. Sir Thomas Mitchell had traced the Darling, from the point at which I had been obliged from the want of good water to abandon it, in 1828, to lat. 32° 26′, and had marked down some hills to the westward of it. Still I do not think that I detract from his merit, and I am sure I do not wish to do so, when I say that his having so marked them

can hardly be said to have given us any certain knowledge of the Cis-Darling interior.

More than sixteen years had elapsed from the period when I undertook the exploration of the Murray River, to that at which I commenced my preparations for an attempt to penetrate Central Australia. Desolate, however, as the country for the most part had been, through which I passed, my voyage down that river had been the forerunner of events I could neither have anticipated or foreseen. I returned indeed to Sydney, disheartened and dissatisfied at the result of my investigations. To all who were employed in that laborious undertaking, it had proved one of the severest trial and of the greatest privation; to myself individually it had been one of ceaseless anxiety. We had not, as it seemed, made any discovery to gild our enterprise, had found no approximate country likely to be of present or remote advantage to the Government by which we had been sent forth; the noble river on whose buoyant waters we were hurried along, seemed to have been misplaced, through such an extent of desert did it pass, as if it was destined thus never to be of service to civilized man, and for a short time the honour of a successful undertaking, as far as human exertion could ensure it, was all that remained to us after its fatigues and its dangers had terminated, as the reader will conclude from the tenour of the above passage; for, although at the termination of the Murray, we came upon a country, the aspect of which indicated more than usual richness and fer-

tility, we were unable, from exhausted strength, to examine it as we could have wished, and thus the fruits of our labours appeared to have been taken from us, just as we were about to gather them. But if, amidst difficulties and disappointments of no common description, I was led to doubt the wisdom of Providence, I was wrong. The course of events has abundantly shewn how presumptuous it is in man to question the arrangements of that Allwise Power whose operations and purposes are equally hidden from us, for in six short years from the time when I crossed the Lake Victoria, and landed on its shores, that country formed another link in the chain of settlements round the Australian continent, and in its occupation was found to realize the most sanguine expectations I had formed of it. Its rich and lovely valleys, which in a state of nature were seldom trodden by the foot of the savage, became the happy retreats of an industrious peasantry; its plains were studded over with cottages and cornfields; the very river which had appeared to me to have been so misplaced, was made the high road to connect the eastern and southern shores of a mighty continent; the superfluous stock of an old colony was poured down its banks into the new settlement to save it from the trials and vicissitudes to which colonies, less favourably situated, have been exposed; and England, throughout her wide domains, possessed not, for its extent, a fairer or a more promising dependency than the province of South Australia. Such, there can be no doubt, have been the results

of an expedition from which human foresight could have anticipated no practical good.

During my progress down the Murray River I had passed the junction of a very considerable stream with it,* in lat. 34° 8′ and long. 142°. Circumstances, however, prevented my examining it to any distance above its point of union with the main river. Yet, coming as it did, direct from the north, and similar as it was to the Darling in its upper branches, neither had I, nor any of the men then with me, and who had accompanied me when I discovered the Darling in 1828, the slightest doubt as to its identity. Still, the fact might reasonably be disputed by others, more especially as there was abundant space for the formation of another river, between the point where I first struck the Darling and this junction.

It was at all events a matter of curious speculation to the world at large, and was a point well worthy of further investigation. Such evidently was the opinion of her Majesty's Government at the time, for in accordance with it, in the year 1835, Sir Thomas Mitchell, the Surveyor-General of the colony of New South Wales, was directed to lead an expedition into the interior, to solve the question, by tracing the further course of the Darling. This officer left Sydney in May, 1835, and pushing to the N.W. gradually descended to the low country on which the Macquarie river all but terminates its short course. In due time he gained the Bogan river

* The Darling.

(the New Year's Creek of my first expedition, and so called by my friend, Mr. Hamilton Hume, who accompanied me as my assistant, because he crossed it on that day), and tracing it downwards to the N. W., Sir Thomas Mitchell ultimately gained the banks of the Darling, where I had before been upon it, in latitude 30°. He then traced it downwards to the S.S.W to latitude 32° 26″. At this point he determined to abandon all further pursuit of the river, and he accordingly returned to Sydney, in consequence, as he informs us, of his having ascertained that just below his camp a small stream joined the Darling from the westward. The Surveyor-General had noticed distant hills also to the west; and it is therefore to be presumed that he here gave up every hope of the Darling changing its course for the interior, and of proving that I was wrong and that he was right. The consequence, however, was, that he left the matter as much in doubt as before, and gained but little additional knowledge of the country to the westward of the river.

In the course of the following year Sir Thomas Mitchell was again sent into the interior to complete the survey of the Darling. On this occasion, instead of proceeding to the point at which he had abandoned it, the Surveyor-General followed the course of the Lachlan downwards, and crossing from that river to the Murrumbidgee, from it gained the banks of the Murray. In due time he came to the disputed junction, which he tells us he recognised from its resemblance to a drawing of it in my first work.

As I have since been on the spot, I am sorry to say that it is not at all like the place, because it obliges me to reject the only praise Sir Thomas Mitchell ever gave me; but I mention the circumstance because it gives me the opportunity to relate an anecdote, connected with the drawing, in which my worthy and amiable friend, Mr. Shannon, a clergyman of Edinburgh, and a very popular preacher there, but who is now no more, took a chief part. I had lost the original drawing of the junction of the Murray, and having very imperfect vision at the time I was publishing, I was unable to sketch another. It so happened that Mr. Shannon, who sketched exceedingly well with the pen, came to pay me a visit, when I asked him to try and repair my loss, by drawing the junction of the Darling with the Murray from my description. This he did, and this is the view Sir Thomas Mitchell so much approved. I take no credit to myself for faithfulness of description, for the features of the scene are so broad, that I could not but view them on my memory; but I give great credit to my poor friend, who delineated the spot, so as that it was so easily recognised. It only shews how exceedingly useful such things are in books, for if Sir Thomas Mitchell had not so recognised the view, he might have doubted whether that was really the junction of the Darling or not, for he had well nigh fallen into the mistake of thinking that he had discovered another river, when he came upon the Darling the year before, and had as much difficulty in finding a marked tree of Mr.

Hume's upon its banks, as if it had been a needle in a bundle of straw. Fortunately, however, the Surveyor-General was enabled to satisfy himself as to this locality, and he accordingly left the Murray, and traced the junction upwards to the north for more than eight miles, when he was suddenly illuminated. A ray of light fell upon him, and he became convinced, as I had been, of the identity of this stream with the Darling, and suddenly turning his back upon it, left the question as much in the dark as before. Neither did he therefore on this occasion, throw any light on the nature and character of the distant interior.

In the year 1837 the Royal Geographical Society, assisted by Her Majesty's Government, despatched an expedition under the command of Lieuts. afterwards Captains Grey and Lushington—the former of whom has since been Governor of South Australia, and is at the present moment Governor in Chief of New Zealand—to penetrate into the interior of the Australian continent from some point on the north-west or west coast; but those gentlemen were unable to effect such object. The difficulties of the country were very great, and their means of transport extremely limited; and in consequence of successive untoward events they were ultimately obliged to abandon the enterprise, without any satisfactory result. But I should be doing injustice to those officers, more particularly to Captain Grey, if I did not state that he shewed a degree of enthusiasm and courage that deserve the highest praise.

As, however, both Sir Thomas Mitchell and Capt. Grey* have published accounts of their respective expeditions, it may not be necessary for me to notice them, beyond that which may be required to connect my narrative and to keep unbroken the chain of geographical research upon the continent.

In the year 1838, I myself determined on leading a party overland from New South Wales to South Australia, along the banks of the Murray; a journey that had already been successfully performed by several of my friends, and among the rest by Mr. Eyre. They had, however, avoided the upper branches of the Murray, and particularly the Hume, by which name the Murray itself is known above the junction of the Murrumbidgee with it. Wishing therefore to combine geographical research with my private undertaking, I commenced my journey at the ford where the road crosses the Hume to Port Phillip, and in so doing connected the whole of the waters of the south-east angle of the Australian continent.

In this instance, however, as in those to which I have already alluded, no progress was made in advancing our knowledge of the more central parts of the continent.

In the year 1839 Mr. Eyre, now Lieutenant-Governor of New Zealand, fitted out an expedition, and under the influence of the most praiseworthy

* Journals of Expeditions of Discovery in North-West and Western Australia, during the years 1837-8-9, by Captain George Grey.

ambition, tried to penetrate into the interior from Mount Arden; but, having descended into the basin of Lake Torrens, he was baffled at every point. Turning, therefore, from that inhospitable region, he went to Port Lincoln, from whence he proceeded along the line of the south coast to Fowler's Bay, the western limit of the province of South Australia.

He then determined on one of those bold movements, which characterise all his enterprises, and leaving the coast, struck away to the N.E. for Mount Arden along the Gawler Range; but the view from the summit of that rugged line of hills, threw darkness only on the view he obtained of the distant interior, and he returned to Adelaide without having penetrated further north than 29° 30′, notwithstanding the unconquerable perseverance and energy he had displayed.

In the following year, the colonists of South Australia, with the assistance of the local government, raised funds to equip another expedition to penetrate to the centre of the continent, the command of which was entrusted to the same dauntless officer. On the morning on which he was to take his departure, from the fair city of Adelaide, Colonel Gawler, the Governor, gave a breakfast, to which he invited most of the public officers and a number of the colonists, that they might have the opportunity of thus collectively bidding adieu to one who had already exerted himself so much for the public good.

Few, who were present at that breakfast will ever forget it, and few who were there present, will refuse to Colonel Gawler the mead of praise due to him, for the display on that occasion of the most liberal and generous feelings. It was an occasion on which the best and noblest sympathies of the heart were roused into play, and a scene during which many a bright eye was dim through tears.

Some young ladies of the colony, amongst whom were Miss Hindmarsh and Miss Lepson, the one the daughter of the first Governor of the province, the other of the Harbour-master, had worked a silken union to present to Mr. Eyre, to be unfurled by him in the centre of the continent, if Providence should so far prosper his undertaking, and it fell to my lot, at the head of that fair company, to deliver it to him.

When that ceremony was ended, prayers were read by the Colonial Chaplain, after which Mr. Eyre mounted his horse, and escorted by a number of his friends, himself commenced a journey of almost unparalleled difficulty and privation*—a journey, which, although not successful in its primary objects, yet established the startling fact, that there is not a single watercourse to be found on the South coast of Australia, from Port Lincoln to King George's Sound, a distance of more than 1500

* Journals of Expeditions of Discovery into Central Australia, and Overland from Adelaide to King George's Sound, in the years 1840 and 41, by E. J. Eyre, Esq.

miles. To what point then, let me ask, does the drainage of the interior set? It is a question of deep interest to all—a question bearing strongly on my recent investigations, and one that, in connection with established facts, will, I think, enable the reader to draw a reasonable conclusion, as to the probable character of the country, which is hid from our view by the adamantine wall which encircles the great Australian bight.

On this long and remarkable journey, Mr. Eyre again found it impossible to penetrate to the north, but steadily advancing to the westward, he ultimately reached the confines of Western Australia, with one native boy, and one horse only. Neither, however, did this tremendous undertaking throw any light on the distant interior, and thus it almost appeared that its recesses were never to be entered by civilized man.

From this time neither the government of South Australia, or that of New South Wales, made any further effort to push geographical inquiry, and all interest in it appeared to have past away.

It remains for me to observe, however, that, whilst these attempts were being made to prosecute inland discovery, Her Majesty's naval service was actively employed upon the coast. Captain Wickham, in command of the Beagle, was carrying on a minute survey of the intertropical shores of the continent, which led to the discovery of two considerable rivers, the Victoria and the Albert, the one situated in lat. 14° 26′ S. and long. 139° 22′ E., the other in lat.

17° 35′ and long. 139° 54′; but in tracing these up to lat. 15° 30′ and 17° 58′, and long. 130° 50′ and 139° 28′ respectively, no elevated mountains were seen, nor was anv opening discovered into the interior. Captain Wickham having retired, the command of the Beagle devolved on Lieut. now Captain Stokes, to whose searching eye the whole of the coast was more or less subjected, and who approached nearer to the centre than any one had ever done before,* but still no light was thrown on that hidden region; and the efforts which had been made both on land and by water, were, strictly speaking, unsuccessful, to push to any conclusive distance from the settled districts on the one hand, or from the coast into the interior on the other. Reasoning was lost in conjecture, and men, even those most interested in it, ceased to talk on the subject.

It may not be of any moment to the public to be made acquainted with the cause which led me, after a repose of more than fourteen years, to seek the field of discovery once more. It will be readily admitted, that from the part, as I have observed in my preface, which I had ever taken in the progress of Geographical Discovery on the Australian continent, I must have been deeply interested in its further developement.

I had adopted an impression, that this immense

* Discoveries in Australia, and Expeditions into the Interior, surveyed during the Voyage of H.M.S. Beagle, between the years 1837 and 43, by Captain J. Lort Stokes.

tract of land had formerly been an archipelago of islands, and that the apparently boundless plains into which I had descended on my former expeditions, were, or rather had been, the sea-beds of the channels, which at that time separated one island from the other; it was impossible, indeed, to traverse them as I had done, and not feel convinced that they had at one period or the other been covered by the waters of the sea. It naturally struck me, that if I was correct in this conjecture, the difficulty or facility with which the interior might be penetrated, would entirely depend on the breadth and extent of these once submarine plains, which in such case would now separate the available parts of the continent from each another, as when covered with water they formerly separated the islands. This hypothesis, if I may so call it, was based on observations which, however erroneous they may appear to be, were made with an earnest desire on my part to throw some light on the apparently anomalous structure of the Australian interior. No one could have watched the changes of the country through which he passed, with more attention than did I—not only from a natural curiosity, but from an anxious desire to acquit myself to the satisfaction of the Government by which I was employed.

When Mr. Oxley, the first Surveyor-General of New South Wales, a man of acknowledged ability and merit, pushed his investigations into the interior of that country, by tracing down the rivers Lachlan

and Macquarie, he was checked in his progress westward by marshes of great extent, beyond which he could not see any land. He was therefore led to infer that the interior, to a certain extent, was occupied by a shoal sea, of which the marshes were the borders, and into which the rivers he had been tracing discharged themselves.

My friend, Mr. Allan Cunningham, who was for several years resident in New South Wales, and who made frequent journeys into the interior of the continent as botanist to his late Majesty King George IV. and who also accompanied Captain P. P. King, during his survey of its intertropical regions, if he did not accompany Mr. Oxley also on one of his expeditions, strongly advocated the hypothesis of that last-mentioned officer; but as Mr. Cunningham kept on high ground on his subsequent excursions, he could not on such occasions form a correct opinion as to the nature of the country below him. His impressions were however much influenced by the observations made by Captain King in Cambridge Gulf, the water of which was so much discoloured, as to lead that intelligent and careful officer to conclude, that it might prove to be the outlet of the waters of the interior, and hence a strong opinion obtained, that the dip of the continent was in the direction of that great inlet, or to the W. N. W. I therefore commenced my investigations, under an impression that I should be led to that point, in tracing down any river I might discover, and that sooner or later I

should be stopped by a large body of inland waters. I descended rapidly from the Blue Mountains, into a level and depressed interior, so level indeed, that an altitude of the sun, taken on the horizon, on several occasions, approximated very nearly to the truth. The circumference of that horizon was unbroken, save where an isolated hill rose above it, and looked like an island in the ocean.

When I reached the point at which Mr. Oxley had been checked, I found the Macquarie, not "running bank high," as he describes it, but almost dry; and although ten years had passed since his visit to this distant spot, the grass had not yet grown over the foot-path, leading from his camp to the river; nor had a horse-shoe that was found by one of the men lost its polish. In this locality there are two hills, to which Mr. Oxley gave the names of Mount Harris and Mount Foster, distant from each other about five miles, on a bearing of 45° to the west of south. Of these two hills Mount Foster is the highest and the nearest, and as the Macquarie runs between them to the westward, it must also be closer than Mount Harris to the marshes. I therefore naturally looked for any discovery that was to be made from Mount Foster, and I according ascended that hill just as the sun was setting. I looked in vain however for the region of reeds and of water, which Mr. Oxley had seen to the westward; so different in character were the seasons, and the state of the country at the different periods in which the Surveyor-General

and I visited it. From the highest point I could gain I watched the sun descend; but I looked in vain for the glittering of a sea beneath him, nor did the sky assume that glare from reflected light which would have accompanied his setting behind a mass of waters. I could discover nothing to intercept me in my course. I saw, it is true, a depressed and dark region in the line of the direction in which I was about to go. The terrestrial line met the horizon with a sharp and even edge, but I saw nothing to stay my progress, or to damp my hopes. As I had observed the country from Mount Foster, so I found it to be when I advanced into it. I experienced little difficulty therefore in passing the marshes of the Macquarie, and in pursuing my course to the N. W. traversed plains of great extent, until at length I gained the banks of the Darling, in lat. 30°. S. and in long. 146°. E. This river, instead of flowing to the N. W. led me to the S. W.; but I was ultimately obliged to abandon it in consequence of the saltness of its waters. I could not, however, fail to observe that the plains over which I had wandered were wholly deficient in timber of any magnitude or apparently of any age, excepting the trees which grew along the line of the rivers; that the soil of the plains was sandy, and the productions almost exclusively salsolaceous. Their extreme depression, indeed their general level, since they were not more than 250, or 300 feet above the level of the sea, together with their general aspect, instinc-

tively, as it were, led the mind to the conviction that they had, at a comparatively recent period, been covered by the ocean. On my return to the Blue Mountains, and on a closer examination of the streams falling from them into the interior, I observed that at a certain point, and that too nearly on the same meridian, they lost their character as rivers, and soon after gaining the level interior, terminated in marshes of greater or less extent; and I further remarked that at certain points, and that too where the channels of the rivers seemed to change, certain trees, as the swamp oak, casuarina, and others ceased, or were sparingly to be found on the lower country—a fact that may not be of any great importance in itself, but which it is still as well to record. The field, however, over which I wandered on this occasion was too limited to enable me to draw any conclusions applicable to so large a tract of land as the Australian continent. On this, my first expedition, I struck the Darling River twice, 1st, as I have stated in latitude 30° S. and in long. 146°; and 2ndly, in lat. 30° 10′ 0″ S., and in long. 147° 30′ E. From neither of these points was any elevation visible to the westward of that river, but plains similar to those by which I had approached it continued beyond the range of vision or telescope from the highest trees we could ascend; beyond the Darling, therefore, all was conjecture.

At the close of the year 1829, I was again sent into the interior to trace its streams and to ascertain

the further course of the Darling. I proceeded on this occasion to the south of Sydney, and intersecting the Murrumbidgee, a river at that time but little known, but which Mr. Hume had crossed, in lat. 35° 10′, and long. 147° 28′ 30″ E.; on his journey to the south coast, at a very early period of discovery, and which thereabouts is a clear, rapid and beautiful stream. I traced it downwards to the west to lat. 34° 44′, and to long. 143° 5′ 00″ E. or thereabouts, having taken to my boats a few miles above the junction of the Lachlan with it, in lat. 34° 25′ 00″ and in long. 144° 03′ E.; having at that point left all high lands 200 miles behind me, and being then in a low and depressed country, precisely similar to that over which I had crossed the previous year. As on the first expedition, so on the present one, I descended rapidly into a country of general equality of surface; reeds grew in extensive patches along the line of the river, but beyond them sandy plains extended, covered with salsolæ of various kinds. From the Murrumbidgee, I passed into the Murray, the largest known river in Australia, unless one of greater magnitude has recently been discovered by Sir Thomas Mitchell to the north.

In lat. 34° and in long. 142°, I arrived, (as I have already had occasion to inform my readers), at the junction of a very considerable stream with the Murray. At this point, being then 200 miles distant from the south coast in a direct line, I was less than 100 feet above the level of the sea;

circumstances prevented my examining this new river however for many miles above its junction with the main stream, but coming, as I have elsewhere remarked, direct from the north, and possessing, as it did, all the character and appearance of the Upper Darling, I had no doubt as to its identity; in which case no stronger fact could have been adduced to prove the southerly fall or dip of the interior as far as it had been explored. Proceeding down the Murray, I reached at length the commencement of the great fossil formation, through which that river flows. This immense bed rose gradually before me as I pushed to the westward, until it gained an elevation of from 2 to 250 feet, but on my turning southward, it presented an horizontal and undulating surface, until at the point at which the river enters the Lake Victoria, it suddenly dipped and ceased. The lower part of this formation was entirely composed of Serritullæ, but every description of shell with the bones and teeth of sharks and other animals, have subsequently been found in the upper parts of the bed, the summit of which is in many places covered with oyster shells so little changed by time, as to appear as if they had only just been thrown in a heap on the ground they occupy.

The general appearance of the country through which I had passed, and the numerous deposits of fine sand upon the face of it, like sea dunes, still more convinced me, that, when the events which had

produced such a change in the physical structure of the continent took place, a current of some description or other must have swept over the interior from the northward; and that this current had deposited the great fossil bed where it now rests; for I cannot conceive that such a mass and mixture of animal remains could have been heaped together in any other way. From the outline of this bed, it struck me that some natural obstacle or other had checked the detritus, brought down by the current, as sand and gravel are checked and accumulated against a leg or other impediment athwart a stream, presenting a gradual ascent on the side next the current and a sudden fall on the other. Such, in truth, is the apparent form of the great fossil bed of the Murray. This idea, which struck me as I journeyed down the river, was strengthened, when at a lower part of it I observed a ridge of coarse red granite, running across the channel of the river, and disappearing under the fossil formation on either side of it. It appeared to me to be probable that this ridge of granite might rise higher in other places, and that stretching across the current as it did, that is to say from west to east, the great accumulation of fossil and other remains had been gradually deposited against it, forming a gradual ascent on the northern side of the ridge, and a precipitous fall upon the other.

I have already observed that at a particular point the rivers of the interior, which I had traced on my

first expedition, appeared to lose their character as such, and that they soon afterwards ceased in some extensive marsh, the evaporation and absorption over such extensive surfaces being greater than the supply of water they received. This point is about 250 or 300 feet above the level of the sea, and if we draw a line eastward, from the summit of the fossil formation, and prolong it to the western base of the Blue Mountains, we shall find that it will pass over the marshes of the several rivers falling into the interior, and will strike these rivers where their channels appear to fail, as if that had been the former sea-level.

The impressions I have on this interesting subject are clear enough in my own mnd, but they are difficult to explain, and I fear I have but ill expressed myself so as to be understood by my readers. I only wish however to record my own ideas, and if I am in error in any particular, I shall thank any one of the many who are better versed in these matters than myself to correct me.

I have stated in a former part of this chapter, that I undertook a journey to South Australia in 1838. I advert to the circumstance again because it is connected with the present inquiry. After I had turned the north-west angle of the Murray, and had proceeded southwards to latitude 34° 26′ (Moorundi), where Mr. Eyre has built a residence, I turned from the river to the westward, along the summit of the fossil formation, which, at the distance of a few miles, was succeeded by sandstone, and this rock again,

as we gained the hills, by a fine slate, and this again, as we crossed the Mount Barker and Mount Lofty ranges, by a succession of igneous rocks, of a character and form such as could not but betray to a less experienced geologist even than myself the abundant mineral veins they contained. On descending to the plains of Adelaide I again crossed sandstone, and to my surprise discovered that the city of Adelaide stood on the same kind of fossil formation I had left behind me on the banks of the Murray, and it was on the discovery of this fact that the probability of the Australian continent having once been an archipelago of islands first occurred to me.

A more intimate acquaintance with the opinions of Flinders, as to the probable character of the interior of the continent, from the character and appearance of the coast along the Great Australian Bight; the information I have collected as to the extent of the fossil bed, and my own past experience, have led me to the following general conclusions. That the continent of Australia has been subjected to great changes from subigneous agency, and that it has been bodily raised, if I may so express myself, to its present level above the sea; that, as far as we can judge, the north and N.E. portions of the continent are higher than the southern or S.W. parts of it, and that there has consequently been a current or rush of waters, from the one point to the other—that this current was divided in its progress into two

branches, by hills, or some other intervening obstacle, and that one branch of it, following the line of the Darling, discharged itself into the sea, through the opening between the western shores of Encounter Bay and Cape Bernouilli; that the other, taking a more westerly direction, escaped through the Great Australian Bight. From what I could judge, the desert I traversed is about the breadth of that remarkable line of coast, and I am inclined to think that it (the desert) retains its breadth the whole way, as it comes gradually round to the south, thus forming a double curve, from the Gulf of Carpentaria, on the N.E. angle of the continent, to the Great Bight on its south-west coast; but my readers will, as they advance into my narrative, see the grounds upon which I have rested these ideas. If such an hypothesis is correct, it necessarily follows, that the north and north-west coasts of the Continent were once separated from the south and east coasts by water; and as I have stated my impression that the current from the north, passed through vast openings, both to the eastward and westward of the province of South Australia, it as necessarily follows, that that province must also have been an island. I hope it will be understood that I started with the supposition that the continent of Australia was formerly an archipelago of islands, but that some convulsion, by which the central land has been raised, has caused the changes I have suggested. It was still a matter of conjecture what the real cha-

racter of Central Australia really was, for its depths had been but superficially explored before my recent attempt. My own opinion, when I commenced my last expedition, inclined me to the belief, and perhaps this opinion was fostered by the hope that such would prove to be the case, as well as by the reports of the distant natives, which invariably went to confirm it, that the interior was occupied by a sea of greater or less extent, and very probably by large tracts of desert country.

With such a conviction I commenced my recent labours, although I was not prepared for the extent of desert I encountered—with such a conviction I returned to the abodes of civilized man. I am still of opinion that there is more than one sea in the interior of the Australian continent, but such may not be the case. All I can say is, Would that I had discovered such a feature, for I could then have done more upon its waters tenfold, than I was enabled to accomplish in the gloomy and burning deserts over which I wandered during more than thirteen months. My readers, however, will judge for themselves as to the probable correctness of my views, and also as to the probable character of the yet unexplored interior, from the data the following pages will supply. I have recorded my own impressions with great diffidence, claiming no more credit than may attach to an earnest desire to make myself useful, and to further geographical research. My desire is faithfully to record my own feelings and im-

pulses under peculiar embarrassments, and as faithfully to describe the country over which I wandered.

My career as an explorer has probably terminated for ever, and only in the cause of humanity, had any untoward event called for my exertions, would I again have left my home. I wish not to hide from my readers the disappointment, if such a word can express the feeling, with which I turned my back upon the centre of Australia, after having so nearly gained it; but that was an achievement I was not permitted to accomplish.

CHAPTER II.

PREPARATIONS FOR DEPARTURE—ARRIVAL AT MOORUNDI—NATIVE GUIDES—NAMES OF THE PARTY—SIR JOHN BARROW'S MINUTE—REPORTS OF LAIDLEY'S PONDS—CLIMATE OF THE MURRAY—PROGRESS UP THE RIVER—ARRIVAL AT LAKE BONNEY—GRASSY PLAINS—CAMBOLI'S HOME—TRAGICAL EVENTS IN THAT NEIGHBOURHOOD—PULCANTI—ARRIVAL AT THE RUFUS—VISIT TO THE NATIVE FAMILIES—RETURN OF MR. EYRE TO MOORUNDI—DEPARTURE OF MR. BROWNE TO THE EASTWARD.

ENTERTAINING the views I have explained in my last chapter, I wrote in January, 1843, to Lord Stanley, at that time Her Majesty's principal Secretary of State for the Colonies, tendering my services to lead an expedition from South Australia into the interior of the Australian continent. As I was personally unknown to Lord Stanley, I wrote at the same time to Sir Ralph Darling, under whose auspices I had first commenced my career as an explorer, to ask his advice on so important an occasion. Immediately on the receipt of my letter, Sir Ralph addressed a communication to the Secretary of State, in terms that induced his Lordship to avail himself of my offer.

In May, 1844, Captain Grey, the Governor of South Australia, received a private letter from Lord

Stanley, referring to a despatch his Lordship had already written to him, to authorise the fitting out of an expedition to proceed under my command into the interior. This despatch, however, did not come to hand until the end of June, but on the receipt of it Captain Grey empowered me to organise an expedition, on the modified plan on which Lord Stanley had determined.

Aware as I was of the importance of the season in such a climate as that of Australia, I had written both to the Secretary of State, and to Sir Ralph Darling, so that I might have time after the receipt of replies from Europe, in the event of my proposals being favourably entertained, to make my preparations, and commence my journey at the most propitious season of the year, but my letter to Sir Ralph Darling unfortunately miscarried, and did not reach him until three months after its arrival in England. The further delay which took place in the receipt of Lord Stanley's despatch, necessarily threw it late in the season before I commenced my preparations for the long and trying task that was before me. By the end of July, however, my arrangements were completed, and my party organised, and only awaited the decision of Mr. John Browne, the younger of two brothers who were independent settlers in the province, whose services I was anxious to secure as the medical officer to the expedition, to fix on the day when it should leave Adelaide.

On the 4th of the month (August), I saw Mr.

W. Browne, who informed me that his brother had determined to accept my proposals, and that he would join me with the least possible delay; upon which I felt myself at liberty to make definitive arrangements, and to direct that the main body of the expedition should commence its journey on Saturday, the 10th. On the morning of that day I attended a public breakfast, to which I had been invited by the colonists, at the conclusion of which the party, under the charge of Mr. L. Piesse (who subsequently acted as storekeeper) proceeded to the Dry Creek, a small station about five miles from Adelaide. At that place he halted for the night. Mr. Browne not having yet joined me, I kept Davenport, one of the men, who was to attend on the officers, with a riding horse for his use, and the spring cart (in which the instruments were to be carried), for the purpose of forwarding his baggage to the Murray, on the banks of which the party was to muster.

I have said that on the 10th of August I attended a public breakfast, to which I and my party had been invited by the colonists, on the occasion of our quitting the capital. I may be permitted in these humble pages to express my gratitude to them for the kind and generous sympathy they have ever evinced in my success in life, as well as the delicacy and consideration which has invariably marked the expression of their sentiments towards me. If, indeed, I have been an instrument, in the hands of Providence, in bringing about the speedier establishment of the province of South Australia, I am thankful

that I have been permitted to witness the happiness of thousands whose prosperity I have unconsciously promoted. Wherever I may go, to whatever part of the world my destinies may lead me, I shall yet hope one day to return to my adopted home, and make it my resting-place between this world and the next. When I went into the interior I left the province with storm-clouds overhanging it, and sunk in adversity. When I returned the sun of prosperity was shining on it, and every heart was glad. Providence had rewarded a people who had borne their reverses with singular firmness and magnanimity. Their harvest fields were bowed down by the weight of grain; their pastoral pursuits were prosperous; the hills were yielding forth their mineral wealth, and peace and prosperity prevailed over the land. May the inhabitants of South Australia continue to deserve and to receive the protection of that Almighty power, on whose will the existence of nations as well as that of individuals depends!

Not having had time as yet to attend to my own private affairs, I was unable to leave Adelaide for a few days after the departure of Mr. Piesse. A similar cause prevented Mr. James Poole, who was to act as my assistant, from accompanying the drays. On the 12th Mr. Browne arrived in Adelaide, when he informed me that he had remained in the country to give over his stock, and to arrange his affairs, to prevent the necessity of again returning to his station. He had now, therefore, nothing

to do but to equip himself, when he would be ready to accompany me. When I wrote to Mr. Browne, offering him the appointment of medical officer to the expedition, I was personally unacquainted with him, but I was aware that he enjoyed the respect and esteem of every one who knew him, and that he was in every way qualified for the enterprise in which I had invited him to join. Being an independent settler, however, I doubted whether he could, consistently with his own interests, leave his homestead on a journey of such doubtful length as that which I was about to commence. The spirit of enterprise, however, outweighed any personal consideration in the breast of that resolute and intelligent officer, and I had every reason to congratulate myself in having secured the services of one whose value, under privation, trial, and sickness, can only be appreciated by myself.

The little business still remaining for us to do was soon concluded, and as Mr. Browne assured me that it would not take more than two or three days to enable him to complete his arrangements, I decided on our final departure from Adelaide on the 15th of the month; for having received my instructions I should then have nothing further to detain me. That day, therefore, was fixed upon as the day on which we should start to overtake the party on its road to Moorundi. The sun rose bright and clear over my home on the morning of that day. It was indeed a morning such as is only known in a southern climate; but I had

to bid adieu to my wife and family, and could but feebly enter into the harmony of Nature, as everything seemed joyous around me.

I took breakfast with my warm-hearted friend, Mr. Torrens, and his wife, who had kindly invited a small party of friends to witness my departure; but although this was nominally a breakfast, it was six in the afternoon before I mounted my horse to commence my journey. My valued friend, Mr. Cooper, the Judge, had returned to Adelaide early in the day, but those friends who remained accompanied us across the plain lying to the north of St. Clare, to the Gawler Town road, where we shook hands and parted.

We reached Gawler Town late at night, and there obtained intelligence that the expedition had passed Angus Park all well. I also learnt that Mr. Calton, the master of the hotel, had given the men a sumptuous breakfast as they passed through the town, and that they had been cheered with much enthusiasm by the people.

On the 16th we availed ourselves of the hospitality of Mrs. Bagot, whose husband was absent on his legislative duties in Adelaide, to stay at her residence for a night. Nothing however could exceed the kindness of the reception we met from Mrs. Bagot and the fair inmates of her house.

On the 17th we turned to the eastward for the Murray, under the guidance of Mr. James Hawker, who had a station on the river. At the White Hut,

Mr. Browne, who had left me at Gawler Town, to see his sister at Lyndoch Valley, rejoined me; and at a short distance beyond it, we overtook the party in its slow but certain progress towards the river. At the Dust Hole, another deserted sheep station on the eastern slope of the mountains, I learnt that Flood, an old and faithful follower of mine, whom I had added to the strength of the expedition at the eleventh hour, was at the station. He was one of the most experienced stockmen in the colonies, and intimately acquainted with the country. I had sent him to receive over 200 sheep I had purchased from Mr. Dutton, which I proposed taking with me instead of salt meat. He had got to the Dust Hole in safety with his flock, and was feeding them on the hills when I passed. The experiment I was about to make with these animals was one of some risk; but I felt assured, that under good management, they would be of great advantage. Not however to be entirely dependent on the sheep, I purchased four cwt. of bacon from Mr. Johnson of the Reed Beds, near Adelaide, by whom it had been cured; and some of that bacon I brought back with me as sweet and fresh as when it was packed, after an exposure of eighteen months to an extreme of heat that was enough to try its best qualities. I was aware that the sheep might be lost by negligence, or scattered in the event of any hostile collision with the natives; but I preferred trusting to the watchfulness of my men, and to

past experience in my treatment of the natives, rather than to overload my drays. The sequel proved that I was right. Of the 200 sheep I lost only one by *coup de soleil.* They proved a very valuable supply, and most probably prevented the men from suffering, as their officers did, from that fearful malady the scurvy.

I had them shorn before delivery, to prepare them for the warmer climate into which I was going. And I may here remark, although I shall again have to allude to it, that their wool did not grow afterwards to any length. It ceased indeed to grow altogether for many months, nor had they half fleeces after having been so long as a year and a half unshorn.

I did not see Flood at the Dust Hole; but continuing my journey, entered the belt of the Murray at 1 P.M., and reached Moorundi just as the sun set, after a ride of four hours through those dreary and stunted brushes.

My excellent friend, Mr. Eyre, had been long and anxiously expecting us. Altogether superior to any unworthy feeling of jealousy that my services had been accepted on a field in which he had so much distinguished himself, and on which he so ardently desired to venture again, his efforts to assist us were as ceaseless as they were disinterested. Whatever there was of use in his private store, whether publicly beneficial or for our individual comfort, he insisted on our taking. He had had great

trouble in retaining at Moorundi two of the most influential natives on the river to accompany us to Williorara (Laidley's Ponds). Mr. Eyre was quite aware of the importance of such attachées, and had spared no trouble in securing their services. Their patience however had almost given way, and they had threatened to leave the settlement when fortunately we made our appearance, and all their doubts as to our arrival vanished. Nothing but jimbucks (sheep) and flour danced before their eyes, and they looked with eager impatience to the approach of the drays.

These two natives, Camboli and Nadbuck, were men superior to their fellows, both in intellect and in authority. They were in truth two fine specimens of Australian aborigines, stern, impetuous, and determined, active, muscular, and energetic. Camboli was the younger of the two, and a native of one of the most celebrated localities on the Murray. It bears about N.N.E. from Lake Bonney, where the flats are very extensive, and are intersected by numerous creeks and lagoons. There, consequently, the population has always been greater than elsewhere on the Murray, and the scenes of violence more frequent. Camboli was active, lighthearted, and confiding, and even for the short time he remained with us gained the hearts of all the party.

Nadbuck was a man of different temperament, but with many good qualities, and capable of strong

attachments. He was a native of Lake Victoria, and had probably taken an active part in the conflicts between the natives and overlanders in that populous part of the Murray river. He had somewhat sedate habits, was restless, and exceedingly fond of the *fair* sex. He was a perfect politician in his way, and of essential service to us. I am quite sure, that so long as he remained with the party, he would have sacrificed his life rather than an individual should have been injured. I shall frequently have to speak of this our old friend Nadbuck, and will not therefore disturb the thread of my narrative by relating any anecdote of him here. It may be enough to state that he accompanied us to Williorara, even as he had attended Mr. Eyre to the same place only a few weeks before, and that when he left us he had the good wishes of all hands.

In the afternoon of the day following that of our arrival at Moorundi, Mr. Piesse arrived with the drays, and drew them up under the fine natural avenue that occupies the back of the river to the south of Mr. Eyre's residence. Shortly afterwards Davenport arrived with the light cart, having the instruments and Mr. Browne's baggage. Flood also came up with the sheep, so that the expedition was now complete, and mustered in its full force for the first time, and consisted as follows of officers, men, and animals:—

Captain Sturt, *Leader.*
Mr. James Poole, *Assistant.*
Mr. John Harris Browne, *Surgeon.*
Mr. M'Dougate Stuart, *Draftsman.*
Mr. Louis Piesse, *Storekeeper.*
Daniel Brock, *Collector.*
George Davenport, } *Servants.*
Joseph Cowley, }
Robert Flood, *Stockman.*
David Morgan, *with horses.*
Hugh Foulkes, }
John Jones, }
— Turpin, } *Bullock drivers.*
William Lewis, *sailor,* }
John Mack, }
John Kerby, *with sheep.*

11 horses; 30 bullocks; 1 boat and boat carriage; 1 horse dray; 1 spring cart; 3 drays. 200 sheep; 4 kangaroo dogs; 2 sheep dogs.

The box of instruments sent from England for the use of the expedition had been received, and opened in Adelaide. The most important of them were two sextants, three prismatic compasses, two false horizons, and a barometer. One of the sextants was a very good instrument, but the glasses of the other were not clear, and unfortunately the barometer was broken and useless, since it had the syphon tube, which could not be replaced in the colony. I exceedingly regretted this accident, for I had been particularly anxious to carry on a series

of observations, to determine the level of the interior. I manufactured a barometer, for the tube of which I was indebted to Captain Frome, the Surveyor-General, and I took with me an excellent house barometer, together with two brewer's thermometers, for ascertaining the boiling point of water on Sykes' principle. The first of the barometers was unfortunately broken on the way up to Moorundi, so that I was a second time disappointed.

It appears to me that the tubes of these delicate instruments are not secured with sufficient care in the case, that the corks placed to steady them are at too great intervals, and that the elasticity of the tube is consequently too great for the weight of mercury it contains. The thermometers sent from England, graduated to 127° only, were too low for the temperature into which I went, and consequently useless at times, when the temperature in the shade exceeded that number of degrees. One of them was found broken in its case, the other burst when set to try the temperature, by the over expansion of mercury in the bulb.

The party had left Adelaide in such haste that it became necessary before we should again move, to rearrange the loads. On Monday, the 18th, therefore I desired Mr. Piesse to attend to this necessary duty, and not only to equalize the loads on the drays, and ascertain what stores we had, but to put everything in its place, so as to be procured at a moment's notice.

The avenue at Moorundi presented a busy scene,

whilst the men were thus employed reloading the drays and weighing the provisions. Morgan, who had the charge of the horse cart, had managed to snap one of the shafts in his descent into the Moorundi Flat, and was busy replacing it. Brock, a gunsmith by trade, was cleaning the arms. Others of the men were variously occupied, whilst the natives looked with curiosity and astonishment on all they saw. At this time, however, there were not many natives at the settlement, since numbers of them had gone over the Nile, to make their harvest on the settlers.

On Monday I sent Flood into Adelaide with despatches for the Governor, and with letters for my family, as well as to bring out some few trifling things we had overlooked, and as Mr. Piesse reported to me on that day that the drays were reloaded, I directed him, after I had inspected them, to lash down the tarpaulines, and to warn the men to hold themselves in readiness to proceed on their journey at 8 A.M. on the following morning—for, as I purposed remaining at Moorundi with Mr. Eyre until Flood should return, I was unwilling that the party should lose any time, and I therefore thought it advisable to send the drays on, under Mr. Poole's charge, until such time as I should overtake him. The spirit which at this time animated the men ensured punctuality to any orders that were given to them. Accordingly the bullocks were yoked up, and all hands were at their posts at early dawn. As, however, I

was about to remain behind for a few days, it struck me that this would be a favourable opportunity on which to address the men. I accordingly directed Mr. Poole to assemble them, and with Mr. Eyre and Mr. Browne went to join him in the flat, a little below the avenue. I then explained to them that I proposed remaining at Moorundi for a few days after their departure. I thought it necessary, in giving them over into Mr. Poole's charge, to point out some of the duties I expected from them.

That in the first place I had instructed Mr. Poole to mount a guard of two men every evening at sunset, who were to remain on duty until sun-rise; that I expected the utmost vigilance from this guard, and that as the safety of the camp would depend on their attention, I should punish any neglect with the utmost severity. I then adverted to the natives, and interdicted all intercourse with them, excepting with my permission. That as I attributed many of the acts of violence that had been committed on the river to this irritating source, so I would strike the name of any man who should disobey my orders in this respect off the strength of the party from that moment, and prevent his receiving a farthing of pay; or whoever I should discover encouraging any of the natives, but more particularly the native women, to the camp. I next drew the attention of the men to themselves, and pointed out to them the ill effects of discord, expressing my hope that they would be cheerful and ready

to assist one another, and that harmony would exist in the camp; that I expected the most ready obedience from all to their superiors; and that, in such case, they would on their part always find me alive to their comforts, and to their interests. I then confirmed Mr. Piesse in his post as store-keeper; gave to Flood the general superintendence of the stock; to Morgan the charge of the horses, and to each bullock-driver the charge of his own particular team. To Brock I committed the sheep, with Kirby and Sullivan to assist, and to Davenport and Cowley (Joseph) the charge of the officers' tents. I then said, that as they might now be said to commence a journey, from which none of them could tell who would be permitted to return, it was a duty they owed themselves to ask the blessing and protection of that Power which alone could conduct them in safety through it; and having read a few appropriate prayers to the men as they stood uncovered before me, I dismissed them, and told Mr. Poole he might move off as soon as he pleased. The scene was at once changed. The silence which had prevailed was broken by the cracks of whips, and the loud voices of the bullock-drivers. The teams descended one after the other from the bank on which they had been drawn up, and filed past myself and Mr. Eyre, who stood near me, in the most regular order. The long line reached almost across the Moorundi flat, and looked extremely well. I watched it with an anxiety that made me forgetful of everything else,

and I naturally turned my thoughts to the future. How many of those who had just passed me so full of hope, and in such exuberant spirits, would be permitted to return to their homes? Should I, their leader, be one of those destined to remain in the desert, or should I be more fortunate in treading it than the persevering and adventurous officer whose guest I was, and who shrank from the task I had undertaken. My eyes followed the party as it ascended the gully on the opposite side of the flat, and turned northwards, the two officers leading, until the whole were lost to my view in the low scrub into which it entered. I was unconscious of what was passing around me, but when I turned to address my companions, I found that I was alone. Mr. Eyre, and the other gentlemen who had been present, had left me to my meditations.

In the afternoon Kusick, one of the mounted police, arrived with despatches from the Governor, and letters from my family. He had met Flood at Gawler Town, whose return, therefore, we might reasonably expect on the Friday.

Amongst the first purchases that had been made was a horse for the service of the expedition, which had not very long before been brought in from Lake Victoria, Nadbuck's location, distant nearly 200 miles from Adelaide, where he had been running wild for some time. This horse was put into the government paddock at Adelaide when bought, but he took the fence some time during the night and disappeared,

nor could he be traced anywhere. Luckily, however, Kusick had passed the horses belonging to the settlers at Moorundi, feeding at the edge of the scrub upon the cliffs, and amongst them had recognised this animal, which had thus got more than 90 miles back to his old haunt. He had, however, fallen into a trap, from which I took care he should not again escape; but we had some difficulty in running him in and securing him.

Prior to the departure of the expedition from Adelaide, a considerable quantity of rain had fallen there. Since our arrival at Moorundi also we could see heavy rain on the hills, although no shower fell in the valley of the Murray. Kusick informed us that he had been in constant rain, and it was evident, from the dense and heavy clouds hanging upon them, that it was still pouring in torrents on the ranges. We feared, therefore, and it eventually proved to be the case, that Flood would not be able to cross the Gawler on his return to us. He was, in fact, detained a day in consequence of the swollen state of that little river, but swam his horse over on the following day, at considerable risk both to himself and his animal. He did not, in consequence, reach us until Saturday. In anticipation, however, of his return on that day, we had sent Kenny, the policeman stationed at Moorundi who was to accompany Mr. Eyre, up the river in advance of us at noon, with Tampawang, the black boy I intended taking with me, and had everything in readiness to

follow them, as soon as Flood should arrive. He did not, however, reach Moorundi until 5 P.M. It took me some little time to reply to the communications he had brought, but at seven we mounted our horses, and leaving Flood to rest himself, and to exchange his wearied animal for the one we had recovered, with Tenbury in front, left the settlement. The night was cold and frosty, but the moon shone clear in a cloudless sky, so that we were enabled to ride along the cliffs, from which we descended to one of the river flats at 1 A.M. and, making a roaring fire, composed ourselves to rest.

It may here be necessary, before I enter on any detail of the proceedings of the expedition, to explain the general nature of my instructions, the object of the expedition, and the reasons why, in some measure, contrary to the opinion of the Secretary of State, I preferred trying the interior by the line of the Darling, rather than by a direct northerly route from Mount Arden.

As the reader will have understood, I wrote, in the year 1843, to Lord Stanley, the then colonial minister, volunteering my services to conduct an expedition into Central Australia. It appeared to his Lordship as well as to Sir John Barrow, to whom Lord Stanley referred my report, that the plan I had proposed was too extensive, and it was therefore determined to adopt a more modified one, and to limit the resources of the expedition and the objects it was to keep in view, to a certain time, and to the inves-

tigation of certain facts. After expressing his opinion as to the magnitude of the undertaking I had contemplated, "There is, however," says Sir J. Barrow, in a minute to the Secretary of State, "a portion of the continent of Australia, to which he (Captain Sturt) adverts, that may be accomplished, and in a reasonable time and at a moderate expense.

"He says, if a line be drawn from lat. 29° 30′ and long. 146°, N.W., and another from Mount Arden due north, they will meet a little to the northward of the tropic, and there, I will be bound to say, a fine country will be discovered. On what data he pledges himself to the discovery of this fine country is not stated. It may, however, be advisable to allow Mr. Sturt to realize the state of this fine country.

"This, however, is not to be done by pursuing the line of the Darling to the latitude of Moreton Bay, which would lead him not far from the eastern coast, where there is nothing of interest to be discovered, nor does it appear advisable to pursue the Darling to the point to which he and Major Mitchell have already been, for this reason. His preparations will, no doubt, be made at Adelaide; from thence to the point in question is about 600 miles, and from this point to the fine country, a little beyond the tropic, is 700 miles, which together make a journey of 1300 miles. Now a line directly north from Adelaide, through Mount Arden, to the point where it crosses the former in the fine country, is only 800

miles, making a saving, therefore, of 500 miles, which is of no little importance in such a country as Australia.

"But Mr. Sturt assigns reasons for supposing that a range of mountains will be found about the 29th parallel of latitude, and Mr. Eyre, whilst exploring the Lake he discovered to the northward of the Gulf of St. Vincent, Adelaide, notices mountains to the N.E., in about the latitude of 28°. Supposing, then, a range of mountains to exist about that parallel, their direction will probably be found to run from N.E. to S.W., which is that generally of the river Darling and its branches; and in this case it may reasonably be concluded that these mountains form the division of the waters, and that all the branches of the several rivers (some of them of considerable magnitude) which have been known to fall into the bays and gulfs on the W. and N.W. coasts, between the parallels of 14° and 21°, have their sources on the northern side of this range of mountains; but, even if no such range exists, it is pretty evident, from what we know of the southern rivers, adjuncts chiefly of the Darling, that somewhere about the latitudes of 28° or 29° the surface rises to a sufficient height to cause a division of the waters, those on the northern side taking a northerly direction, and those on the southern side a southerly one.

"To ascertain this point is worthy of a practical experiment in a geographical point of view, as the knowledge of the direction that mountains and

rivers take, the bones and blood vessels of bodies terrestrial give us at least a picture of the body of that skeleton. To these Mr. Sturt will no doubt direct his particular attention, as constituting the main object of such an expedition, and these, with the great features of the country, its principal productions in the animal and vegetable part of the creation, the state and condition of the original inhabitants, will render a great service to the geography of the southern part of Australia."

On this memorandum the Secretary of State observes, in a private letter to Captain Grey, that came to hand before the receipt of Lord Stanley's public despatch:—

"In considering Sir John Barrow's memorandum, enclosed in my public despatch, you will see that a strong opinion is expressed against ascending the Darling in the first instance, and in favour of making a direct northerly course from Adelaide to Mount Arden. I do not wish this to be taken as an absolute injunction, because I am aware that there may be local causes why the apparently circuitous route may after all be the easiest for the transport of provisions, and may really facilitate the objects of the expedition. In like manner I do not wish to be understood as absolutely prohibiting a return by Moreton Bay, extensive as that deviation would be, if it should turn out that the exploration of the mountain chain led the party so far to the eastward as to be able to reach that point by a route

previously known to Captain Sturt or to Major Mitchell, more easily than they could return on their steps down the Darling. What Captain Sturt will understand as *absolutely prohibited*, is any attempt to conduct his party through the tropical regions to the northward, so as to reach the mouths of any of the great rivers. The present expedition will be limited in its object, to ascertaining the existence and the character of a supposed chain of hills, or a succession of separate hills, trending down from N.E. to S.W., and forming a great natural division of the continent; to examining what rivers take their source in those mountains, and what appears to be their course; to the general lie of the country to the N.W. of the supposed chain; and to the character of the soil and forests, as far as can be ascertained by such an investigation as shall not draw the party away from their resources, and shall make the south the constant base of their operations."

I presume, from the tenor of Sir John Barrow's memorandum, that he was not fully aware of the insurmountable difficulties the course he recommends presented. Valuing his judgment as I did on such an occasion, and anxious as I was to act on the suggestions of the Secretary of State, the strongest grounds could alone have made me pursue a course different to that which had been recommended to me. Certainly the fear of any ordinary difficulty would not have influenced me to reject the line pointed out, but I felt satisfied that if Lord Stanley

and Sir John Barrow could be made aware of the nature of the country to the north of Mount Arden, and the reasons why I considered it would be more advantageous to take the line of the Darling, they would have concurred in opinion with me. I would myself much rather have taken the line by Mount Arden, since it would have been a greater novelty, and I would have precluded the chance of any collision with the natives of the Darling, more especially at that point to which I proposed to go, and at which Sir Thomas Mitchell had had a rupture with them in 1836. The journeys of Mr. Eyre had, however, proved the impracticability of a direct northerly course from Mount Arden. Such a course would have led me into the horse-shoe of Lake Torrens; and although I might have passed to the westward of it, I could hope for no advantage in a country such as that which lies to the north of the Gawler Range. On the other hand, the Surveyor-General of South Australia had attempted a descent into the interior from the eastward, and had encountered great difficulties from the want of water. Local inquiry and experience both went to prove the little likelihood of that indispensable element being found to the north of Spencer's Gulf. It appeared to me also that Sir John Barrow had mistaken the point on the Darling to which I proposed going. It was not, as he seems to have conjectured, to any point to which I had previously been, but to an intermediate one. It is very true

that if I had contemplated pushing up the Darling to Fort Bourke, the distance would have been 600 miles, and that, too, in a direction contrary to the one in which I was instructed to proceed; but to Laidley's Ponds, in lat. 32° 26′ 0″ S. and long. 142° 30′ W., (the point to which I proposed to go) the distance would have been a little more than 300 miles. It was from this point that Sir Thomas Mitchell retreated after his rupture with the natives in 1836; because, as he himself informs us, he just then ascertained that a small stream joined the Darling from the westward a little below his camp, and he likewise saw hills in the same direction.

In consequence of the inhospitable character of the country to the north, I had turned my attention to the above locality, and had been assured by the natives, both of the Murray and the Darling, that the Williorara (Laidley's Ponds) was a hill stream, that it came far from the N.W., that it had large fish in it, and that its banks were grassy. It struck me, therefore, that it would be a much more eligible line for the expedition to run up the Darling to lat. 32° 26′, and then to trace the Williorara upwards into the hills, with the chance of meeting the opposite fall of waters, rather than to entangle myself and waste my first energies amidst scrub and salt lagoons. As I understood my instructions and the wishes of the Secretary of State, I was to keep on the 138th meridian (that of Mount Arden) until I should reach the supposed chain of mountains, the

existence of which it was the object of Lord Stanley to ascertain, or until I was turned aside from it by some impracticable object. Lake Torrens being due north of Mount Arden would, if I had taken that line, have been direct in my way, and I should have had to turn either its eastern or its western flank. The Surveyor-General, Captain Frome, had tried the former, but although he went considerably to the eastward into the low and desert interior before he turned northwards, he still found himself entangled in that sandy basin, so that it appeared to me that I should do little more than clear it on the course I proposed to take.

As the reader, however, will learn in the perusal of these pages, I was wholly disappointed in the character of the Williorara. Where that channel joins the Darling, the upward course of that river is to the north-east; and as that was a course directly opposite to the one I felt myself bound to take, I abandoned it and took at once to the hills. At my Depôt Prison, in lat. 29° 40′, and in long. 141° 30′ E., I hoped that we had sufficiently cleared the north-east limit of Lake Torrens; but when on the fall of rain we resumed our labours, we measured 131¾ miles with the chain before we arrived on the shore of a vast sandy basin, which I could not cross, and to the northward of which I could not penetrate. Thus disappointed in my attempt to gain the 138th meridian on a westerly course, as well as in my anticipation of finding Lake Torrens connected with some more central feature, it appeared to me that I

could not follow out my instructions better than by attempting to penetrate towards the centre of the continent on a north-west course, for it was clear that if there were any ranges or any mountain chains traversing the interior from north-east to south-west I should undoubtedly strike them; but that if no such chains existed the proposed course would take me to the Tropic on the meridian of 138°, and would enable me to determine the character of the interior, and more central regions of the continent. In this attempt I succeeded in gaining the desired meridian, but failed in reaching the Tropic. My position was about 500 miles north of Mount Arden, 60 miles rom the Tropic, and somewhat less than 150 to the eastward of the centre of the Australian continent. Forced back to my depôt a second time, from the total failure both of water and grass, in the quarter to which I had penetrated with the above objects in view, having passed the centre in point of latitude, I again left it on a due north course to ascertain if there were any ranges or hills between my position and the Gulf of Carpentaria, as well as to satisfy myself as to the character and extent of a stony desert I had crossed on my last excursion. That iron region however again stopped me in my progress northwards, and obliged me to fall back on a place of safety. For fourteen months I kept my position in a country which never changed but for the worse, and from which it was with difficulty that I ultimately escaped; but as the minuter details of the

expedition will be given in the subsequent pages of this work, any mention of them here would be superfluous. I shall only express my regret that we were unable to make the centre or to gain the Tropic. As regards the objects for which the expedition was fitted out, I hope it will be granted that they were accomplished, and that little doubt can now be entertained as to the non-existence of the mountain chains, the supposed existence of which I was sent to ascertain. It would, however, have gratified me exceedingly to have crossed into the Tropic, to have decided my own hypothesis as to the fine country I ventured to predict would be found to exist beyond it. My reasons for supposing which I thought I had explained in my first letter to the Secretary of State, but as it would appear from an observation in Sir John Barrow's memorandum, that I had not done so, I deem it right briefly to record them here.

I had observed on my first expedition to the Darling, in 1828, when in about lat. 29° 30′ S. that the migration of the different kinds of birds which visit the country east of the Darling during the summer, was invariably to the W. N. W. Cockatoos and parrots that whilst staying in the colony were known to frequent elevated land, and to select the richest and best watered valleys for their temporary location, passed in flights of countless number to the above-mentioned point. I had also observed, during my residence in South Australia,

that several of the same kind of birds annually visited it, and that they came directly from the north. I had seen the *Psytacus Novæ Hollandiæ* and the *Shell Parroquet* following the line of the shore of St. Vincent Gulf like flights of starlings in England, and although intervals of more than a quarter of an hour elapsed between the passing of one flight and that of another, they all came from the north and followed in the same direction. Now, although I am quite ready to admit that the casual appearance of a few strange birds should not influence the judgment, yet I think that a reasonable inference may be drawn from the regular and systematic migration of the feathered races. Now, if we were to draw a line from Fort Bourke to the W.N.W., and from Mount Arden to the north, we should find that they would meet a little to the northward of the Tropic, and as I felt assured of two lines of migration thus tending to the same point, there could be little doubt but that the feathered races migrating upon them rested at that point, for a time, so I was led to conclude that the country to which they went would in a great measure resemble that which they had left—that birds which delighted in rich valleys, or kept on lofty hills, surely would not go into deserts and into a flat country; and therefore it was that I was led to hope, that as the fact of large migrations from various parts of the continent to one particular part, seemed to indicate the existence either of deserts or of water

to a certain distance, so the point at which migration might be presumed to terminate would be found a richer country than any which intervened. On the late expedition, I accidentally fell into the line of migration to the north-west, and birds that I was aware visited Van Diemen's Land passed us, after watering, to that point of the compass. Cockatoos would frequently perch in our trees at night, and wing their way to the north-west after a few hours of rest; and to the same point wild fowl, bitterns, pigeons, parrots, and parroquets winged their way, pursued by numerous birds of the Accipitrine class. From these indications I was led still more to conclude that I might hope for the realization of my anticipations if I could force my own way to the necessary distance.

During our stay at Moorundi, the weather had been beautifully fine, although it rained so much in the hills. A light frost generally covered the ground, and a mist rose from the valley of the Murray at early dawn; but both soon disappeared before the sun, and the noon-day temperature was delicious—nothing indeed could exceed the luxury of the climate of that low region at that season of the year, August.

We had directed Kenny, the policeman, and Tampawang, to bivouac in the valley in which we ourselves intended to sleep, but we saw nothing of them on our arrival there. The night was bitter cold, insomuch that we could hardly keep ourselves

H. McIville.

SUNSET ON THE MURRAY.

warm, notwithstanding that we laid under shelter of a blazing log. As dawn broke upon us, we prepared for our departure, being anxious to escape from the misty valley to the clearer atmosphere on the higher ground. At eight A. M. we passed the Great Bend of the Murray, and I once more found

N.W. angle of the Murray. Colonel Gawler's Camp.

myself riding over ground every inch of which was familiar to me, since not only on my several journeys down and up the river had I particularly noticed this spot, but I had visited it in 1840 with Colonel Gawler, the then Governor of South Australia; who, finding that he required relaxation from his duties, invited me to accompany him on an excursion he proposed taking to the eastward of the Mount Lofty Range, for the purpose of examining

the country along the shores of Lake Victoria and the River Murray, as far as the Great Bend. It was a part of the province at that time but little known save by the overlanders, and the Governor thought that by personally ascertaining the capabilities of the country contiguous to the Murray, he might throw open certain parts of it for location. Being at that time Surveyor-General of the Province, I was glad of such an opportunity to extend my own knowledge of the province to the north and north-east of Adelaide, more especially as this journey gave me an opportunity to cross from the river to the hills westward of the Great Bend. Not only was the land on the Murray soon afterwards occupied to that point, but Colonel Gawler and I also visited the more distant country on that occasion. Since my return, indeed, from my recent labours, the line of the Murray is occupied to within a short distance of the remoter stations of the colony of New South Wales, and there can be no doubt but that in the course of a few years the stock stations from the respective colonies will meet. I was afraid, when I came the second time down the Murray, that I had exaggerated the number of acres in the valley, but on further examination, it appears to me that I did not do so; for as the traveller approaches Lake Victoria the flats are very extensive, but more liable to inundation than those on the higher points of the river, for being so little elevated above the level of the water, especially

those covered with reeds, the smallest rise in the stream affects them. Lake Victoria, although it looks like a clear and open sea, as you look from the point of Pomundi, which projects into it to the south, is after all exceedingly shallow, and is rapidly filling up from the decay of seaweed and the deposits brought into it yearly by the floods of the Murray. No doubt but that future generations will see that fine sheet of water confined to a comparatively narrow bed, and pursuing its course through a rich and extensive plain. When such shall be the case, and that the strength of the Murray shall be brought to bear in one point only, it is probable its sea mouth will be navigable, and that the scenery on this river will be enlivened by the white sails of vessels on its ample bosom. I can fancy that nothing would be more beautiful than the prospect of vessels, however small they might be, coming with swelling sails along its reaches. It may, however, be said, that it will be a distant day when such things shall be realized. There is both reason and truth in the remark; but Time, with his silent work, has already raised the flats in the valley of the Murray, and as we are now benefiting by his labours, so it is to be hoped will our posterity. However that may be, for it is a matter only of curious speculation, nothing will stay the progress of improvement in a colony which has received such an impulse as the province of South Australia. As men retain their peculiarities,

so, I believe, do communities; and where a desirable object is to be gained, I shall be mistaken if it is lost from a want of spirit in that colony. Purposing, however, to devote a few pages to the more particular notice of the state of South Australia, and the prospects it holds out to those who may desire to seek in other lands more comforts and a better fortune than they could command in their native country, I shall not here make any further observation.

The morning, which had been so cold, gradually became more genial as the sun rose above us, and both Mr. Eyre and myself forgot that we had so lately been shivering, under the influence of the more agreeable temperature which then prevailed.

As we turned the Great Bend of the Murray, and pursued an easterly course, we rode along the base of some low hills of tertiary fossil formation, the summits of which form the table land of the interior. We were on an upper flat, and consequently considerably above the level of the water as it then was. In riding along, Tenbury pointed out a line of rubbish and sticks, such as is left to mark the line of any inundation, and he told us, that, when he was a boy, he recollected the floods having risen so high in the valley as to wash the foot of these hills. He stated, that there had been no previous warning; that the weather was beautifully fine, and that no rain had fallen; and he added that the natives were ignorant whence the water came, but that it came from a long way off.

According to Tenbury's account, the river must have been fully five and twenty feet higher than it usually rises; and judging from his age, this occurrence might have taken place some twenty years before. As we proceed up the Darling, we shall see a clue to this phenomenon. But why, it may be asked, do not such floods more frequently occur? Is it that the climate is drier than it once was, and that the rains are less frequent? There are vestiges of floods over every part of the continent; but the decay of debris and other rubbish is so slow, that one cannot safely calculate how long it may have been deposited where they are so universally to be found.

After passing the Great Bend, as I have already stated, we turned to the eastward and overtook Mr. Poole at noon, not more than eight miles distant. Some of the bullocks had strayed, and he had consequently been prevented from starting so early as he would otherwise have done. The animals had, however, been recovered before we reached the party, and were yoked up; we pushed on therefore to a distance of nine miles, cutting across from angle to angle of the river, but ultimately turned into one of the flats and encamped for the night. We passed during the day through some low bushes of cypresses and other stunted shrubs, but they were not so thick as to impede our heavy drays, by the weight of which every tree they came in contact with was brought to the ground. A meridian altitude of

Vega placed us in lat. 34° 4′ 20″ S., by which it appeared that we had made four miles of southing, the Great Bend being in lat. 34°. Kenny and Tampawang had joined the party before we overtook it, and Flood arrived in the course of the afternoon. The cattle had an abundance of feed round our tents, and near a lagoon at the upper end of the flat. The thermometer stood at 40° at 7 P.M., with the wind at west.

On the morning of the 26th we availed ourselves of the first favourable point to ascend from the river flats to the higher ground, since it prevented our following the windings of the river and shortened our day's journey. In doing this we sometimes travelled at a considerable distance from the Murray —the surface of the country was undulating and sandy, with clumps of stunted cypress trees, and eucalyptus dumosa scattered over it. Low bushes of rhagodia, at great distances apart, were growing on the more open ground; the soil, consisting of a red clay and sand, only superficially covering the fossil formation beneath it. At 11 A.M. we entered a dense brush of cypress and eucalypti growing in pure sand. Fortunately for us the overlanders had cut a passage through it, so that we had a clear road before us, but the drays sunk deep into the loose sand in which these trees were growing, and the bullocks had a constant strain on the yoke for six miles. We then broke into more open ground, and ultimately reached the river in sufficient time to arrange the camp

before sunset, although we had 2½ miles to travel on a S.W. course before we found a convenient place to stop at. Our course during the day having been S.S.E., we had thus been obliged to turn back upon it, but this was owing to the direction the river here takes and was unavoidable. At 6 P.M. the thermometer stood at 55° of Farenheit, the barometer at 30.000, and the boiling point of water by two thermometers with a difference of 2° 212′ and 214′, respectively, our distance from the sea coast being about 180 miles as the crow flies.

It was generally thought in Adelaide that having started so late in the season, I should experience some difficulty in getting feed for the cattle. From my experience, however, of the seasons in the low region through which the Murray flows, I had no such anticipation. The only fear I had, was, that we should be shut out from flats of the river by the floods, as I knew it would be on the rise at the time we should be upon it. To this point, however (and I may add, with few exceptions), we found an abundance of feed, both along the line of the Murray and the Darling, but at our present encampment our animals fared very indifferently, in consequence of the poor nature of the soil. Our tents were pitched at the northern extremity of a long flat, between the river and a serpentine lagoon, which left but a narrow embankment between itself and the stream. The soil of the flat was a cold white clay, on which there was scarcely any vegetation, so that the cattle

wandered and kept us about an hour after our appointed hour of starting. There had been a sharp frost during the night, and the morning was bitterly cold. At sunrise the thermometer stood at 29°, the dew point being 43°, and the barometer at 29.700.

When we left this place, our course, for the first three miles, was along the embankment separating the river from the lagoon, and I remarked that although there was so little vegetation on the ground, there were some magnificent trees on the bank of the river itself, which gradually came up to the north-east. At three miles, however, our further course along the flats was checked by the hills of fossil formation, which approached the river so closely as to leave no passage for the drays between it and them. We were, therefore, obliged to ascend to the upper levels, in doing so we were also obliged to put two teams, or sixteen bullocks, to each dray, and even then found it difficult to master the ascent.

Referring back to a previous remark, I would observe that the Murray river is characterised by bold and perpendicular cliffs of different shades of yellow colour, varying from a light hue to a deep ochre. These cliffs rise abruptly from the water to the height of 250 and occasionally 300 feet. They occur first on one side of the river, and then on the other, there being an open or a lightly-timbered flat on the opposite side, with a line of trees almost

invariably round it, especially along the river. These flats are backed, at uncertain distances, by the fossil formation, as by a natural inclosure—sometimes it rises perpendicularly from the flats, but more generally assumes the character of sloping hills. The cliffs occasionally extend, like a wall, along the river for two or three miles, and look exceedingly well; but their constant recurrence, at length fatigues the eye. At the point at which we had now arrived this remarkable formation ceases, or, as we are going up the river, I should perhaps be more correct if I said, begins. Above it a long line of hills, broken by deep and rugged stony gullies, and with steep sides, extends to the eastward (that also being the upward course of the river). On gaining the crest of these hills we found ourselves, as usual, on a flat table land, notwithstanding the broken faces of the hills themselves. There was only a narrow space between them, and a low thick brush of eucalyptus to the north. The soil was, as usual, a mixture of clay and sand, with small rounded nodules of limestone. From this ground, the view to the south as a medium point, was over as dark and monotonous a country as could well be described. There was not a single break in its sombre hue, nor was there the slightest rise on the visible horizon; both to the eastward and westward we caught glimpses of the Murray glittering amidst the dark foliage beneath us, but it made no change in the character of the landscape.

We kept on the open ground, just cutting the heads of the gullies, and advanced eight miles before we found a convenient spot at which to drive the cattle down to water, and feed in the flats below, and into which it appeared impracticable to get our drays. I halted, therefore, on the crest of the hills, and sent Flood and three other men to watch the animals, and to head them back if they attempted to wander. In the afternoon we went down to the river, and on crossing the flat came upon the dray tracks of some overland party, the leader of which had taken his drays down the hills, notwithstanding the apparent difficulty of the attempt. But what is there of daring or enterprise that these bold and high-spirited adventurers will shrink from?

I had hoped that the more elevated ground we here occupied, would have been warmer than the flats on which we had hitherto pitched our tents, but in this I was disappointed. The night was just as cold as if we had been in the valley of the Murray. At sunrise the thermometer stood at 27°, and we had thick ice in our pails.

At five miles from this place, having left the river about a mile to our right, we arrived at the termination of this line of hills. They gradually fell away to the eastward and disappeared; nor does the fossil formation extend higher up the Murray. It here commences or terminates, as the traveller is proceeding up or down the stream. A meridian altitude on the hill just before we descended, placed it in lat. 34°9′56″,

so that we had still been going gradually to the south. At the termination of the hills, the Murray forms an angle in turning sharp round to that point, and after an extensive sweep comes up again, so as to form an opposite angle; the distance between the two being 14 or 15 miles, and from the ground on which we stood the head of Lake Bonney bore E. 5° S., distant six miles.

On descending from these hills we fell into the overland road, but were soon turned from it by reason of the floods, and obliged to travel along a sandy ridge, forming the left bank of a lagoon, running parallel to the river, into which the waters were fast flowing; but finding a favourable place to cross, at a mile distant, we availed ourselves of it, and encamped on the river side. In the afternoon we had heavy rain from the west. During it, Mr. James Hawker, a resident at Moorundi, joined us, and took shelter in our tents. He had, indeed, kept pace with us all the way from the settlement in his boat, and supplied us with wild fowl on several occasions.

We had showers during the night, but the morning, though cloudy, did not prevent our moving on to Lake Bonney, distant, according to our calculation, between four and five miles. To determine this correctly, however, I ordered Mr. Poole to run the chain from the river to the lake. We had seen few or no natives as yet; but expecting to find a large party of them assembled at Lake Bonney, Mr. Eyre

went before us with Kenny and Tenbury, leaving Nadbuck and Camboli to shew us the most direct line to the mouth of the little channel which connects Lake Bonney with the Murray, at which I purposed halting. The greater part of our way was through deep sandy cypress brushes, so that the cattle had a heavy pull of it. We reached our destination at 1 P.M., where we found Mr. Eyre, with eight or nine natives, all, who were then in the neighbourhood.

The back-water of the Murray was fast flowing into the lake, which already presented a broad expanse of water to the eye. It was covered with wild fowl of various kinds, and there were several patches of reeds in which they were feeding.

As I purposed stopping for a day or two, to rest the bullocks, I directed Mr. Poole to survey the lake, whilst I undertook to lay down the creek or channel connecting it with the river, in which service I enlisted Mr. Hawker, who had formerly been on the survey, and whose name I gave to the creek on the completion of our work.

Lake Bonney is a shallow sandy basin, which is annually filled by the Murray; and as it rises, so, to a certain extent, it falls with the river, until at length, being left very shallow, it is soon dried up. The Hawker being too small to discharge the water equally with the fall of the river, has a current in it after the river has lowered considerably, for which reason I thought, when I passed it on my second

expedition, that it had been a tributary ; but such is not the case—Lake Bonney receiving no water save from the Murray. To the south of it, or next the river, the ground is low, grassy, and wooded ; but on every other side the lake is confined by a low sand hill, of about fifteen feet in height, behind which there is a barren flat covered with salsolaceous plants, and exactly resembling a dry sea marsh, if I may say so. The more distant interior is alternate brush and plain, and exceedingly barren. The day after we arrived, however, Tenbury, with the dogs, killed four large kangaroos and as he saw many more, it is to be presumed that thereabouts they are pretty numerous. The lake is ten miles in circumference. Hawker's Creek, taking its windings, is nearly six in length. The latitude of our camp was 34° 13′ 42″S. ; its longitude 140° 26′ 16″. On September 1st, the thermometer, at 8 A. M. and at noon, stood at 48° and 60° respectively ; the barometer at 29.750, and the boiling point was 212° nearly, thus indicating that we had risen but a few feet above the level of the sea. We left Lake Bonney on the 3rd of September, and crossing the bank of sand by which it is confined, traversed the flat behind it for about three miles, when we ascended some feet, and entered a low brush that continued for nearly nine miles, with occasional openings in it to that angle of the river which is opposite to the one at the end of the fossil formation.

Our camp at this place was on one of the prettiest

spots on the Murray. Our tents were pitched on some sloping ground, sheltered from the S.W. wind. The feed was excellent, and the soil of better quality than usual. We had a splendid view of the river, which here is very broad and flanked on the right by a dark clay cliff, which is exceedingly picturesque. On the opposite side of the stream there is an extensive, well wooded and grassy flat of beautiful and park-like appearance. Altogether it was a cheerful and pleasant locality, and we were sorry to leave it so soon. Our observations placed us in lat. 34° 11′ 12″ S. and in long. 140° 39′ 42″ E. From this point the general course of the Murray is much more to the north than heretofore, so that on leaving it we had more of northing in our course than anything else. Some strange natives brought up our cattle for us, to whom I made presents; but although so kindly disposed, they did not follow us. Indeed, the natives generally, seemed to regard our progress with suspicion, and could not imagine why we were going up the Darling with so many drays and cattle. Our sheep had now become exceedingly tame and tractable; they followed the party like dogs, and I therefore felt satisfied that I had not done wrong in bringing them with me. We travelled on the 4th, over harder and more open ground than usual, having extensive polygonium flats to our right. There were belts of brush however on the plains, the soil and productions of which were sandy and salsolaceous. At 4½ miles we

struck a lagoon, and coming upon a creek at 13 miles, we halted, although the feed was bad, as the cattle were unable to get to the river flats in consequence of the flooded state of the creek itself.

On the 5th we travelled through a country that consisted almost entirely of scrub on the poorest soil. However, we were now approaching that part of the river at which the flats (extensive enough) are intersected by numerous creeks and lagoons, so that our approach to the Murray was likely to be cut off altogether. At 3½ miles we again struck the creek on the banks of which we had slept, and as it was the point at which the native path from Lake Bonney also strikes it, I halted to take a meridian altitude, which placed it in 34° 4′ 5″ S. We had allowed our horses to go and feed with their bridles through the stirrups, and were sitting on the ground when we heard a shot, and a general alarm amongst them, insomuch that we had some difficulty in quieting them, more especially Mr. Poole's horse. It was at length discovered that one of that gentleman's pistols had accidentally gone off in the holster, to the dismay of the poor animal. Fortunately no damage was done.

After noon, we pushed on, and at a mile crossed a creek, where we found a small tribe of scrub natives, one of whom had a child of unusual fatness: its flesh really hung about it; a solitary instance of the kind as far as I am aware. We then traversed good grassy plains for about two miles, when we fell

in with another small tribe on a second creek: our introduction to which was more than ordinarily ceremonious. The natives remained seated on the ground, with the women and children behind them, and for a long time preserved that silence and reserve which is peculiar to these people when meeting strangers; however, we soon became more intimate, and several of them joined our train. Our friend Nadbuck was very officious (not disagreeably so, however), on the occasion, and shewed himself a most able tactician, since he paid more attention to the fair than his own sex, and his explanation of our movements seemed to have its due weight.

We soon passed from the grassy plains I have mentioned, to plains of still greater extent, and still finer herbage. Nothing indeed could exceed the luxuriance of the grass on these water meadows, for we found on crossing that the floods were beginning to incroach upon them. These were marked all over with cattle tracks, many of them so fresh that they could only have been made the night before, but independently of these there were others of older date. The immense number of these tracks led me to inquire from the natives if there were any cattle in the neighbourhood, when they informed me that there were numbers of wild cattle in the brushes to the westward of the flats, and that they came down at night to the river for water and food. The grass upon the plain over which we were travelling was so inviting, that I determined to give

the horses and bullocks a good feed, and turning towards the river with Mr. Eyre, I directed Mr. Poole and Mr. Browne to try the brushes with Flood and Mack, for a wild bullock, whilst we arranged the camp. We scarcely had time to do this, however, when Mr. Browne returned to inform me that soon after gaining the brush they had fallen in with a herd of about fifty cattle, out of which they had singled and shot a fine animal, and that on his way back to the camp the dogs had killed a large kangaroo. Upon this I sent Morgan with the cart to fetch in the quarters of the animal, and desired the natives to go with him to benefit by what might be left behind, and to feast on the kangaroo. The beast the party had killed fully justified Mr. Browne's account of it, and its fine condition proved the excellent nature of the pastures on which it had fed. We had not killed many of the sheep, as I was anxious to preserve them, since they had given us little or no trouble, so that I was led to hope that by ordinary care they would prove a most valuable and important stock.

We were here unable to approach the river, and therefore encamped near a creek, the banks of which were barren enough; however, as we had stopped for the benefit of the cattle it was of no consequence. But although on this occasion they were absolutely up to their middles in the finest grass, the bullocks were not satisfied, but with a spirit of contradiction common to animals as well as men they sepa-

rated into mobs and wandered away; the difficulty of recovering them being the greater, because of the numerous tracks of other cattle in every direction around us. We recovered them, however, although too late to move that day, and it is somewhat remarkable to record, that this was the only occasion on which during this long journey we were delayed for so long a time by our animals wandering. Had it not been for Tampawang, whose keen eye soon detected the fresher tracks, we might have been detained for several days.

As Mr. Browne had been on horseback the greater part of the day, I left him in the camp with Mr. Poole, both having been after the cattle, and in the afternoon walked out with Mr. Eyre, to try if we could get to the river, but failed, for the creeks were full of water, and our approach to it or to the nearer flats was entirely cut off. So intersected indeed was this neighbourhood, that we got to a point at which five creeks joined. The scene was a very pretty one, since they formed a sheet of water of tolerable size shaded by large trees. The native name of this place was "Chouraknarup," a name by no means so harmonious as the names of their places generally are. We had not commenced any collection at this time, there being nothing new either in the animals or plants, but I observed that everything was much more forward on this part of the river than near Lake Bonney, although there was no material difference between the two places in

point of latitude. A meridian altitude of the sun gave our latitude 34° 1′ 33″ S., and one of Altair 34° 2′ 2″ S.

The night of the 6th Sept. was frosty and cold, and we had thick ice in the buckets. We left our camp on a N. by E. course, at 8 o'clock on the morning of the 7th, and at 4 miles struck the river, where its breadth was considerable, and it looked exceedingly well. The flooded state of the creeks however prevented our again approaching it for several days. Shortly after leaving the river we turned more to the eastward, having gained its most northern reach. About noon we fell in with a few natives, who did not trouble themselves much about us, but we found that their backwardness was rather the result of timidity at seeing such a party than anything else. We traversed large and well-grassed flats almost all day long, and ultimately encamped on the banks of a creek of some size, opposite to our tents the floods had made an island, on which we put our cattle for security during the night.

Mr. Eyre and I were again disappointed in an attempt to gain the banks of the Murray, but we returned to the camp with a numerous retinue of men, women, and children, who treated us to a corrobori at night. The several descriptions which have been given by others of these scenes, might render it unnecessary for me to give my account of such here; but as my ideas of these ceremonies may differ from that of other travellers, I shall trespass

on the patience of my readers for a few moments to describe them. However rude and savage a corrobori may appear to those to whom they are new, they are, in truth, plays or rather dramas, which it takes both time and practice to excel in. Distant tribes visiting any other teach them their corrobori, and the natives think as much of them as we should do of the finest play at Covent Garden. Although there is a great sameness in these performances they nevertheless differ. There is always a great bustle when a corrobori is to be performed, and the men screw themselves up to the acting point, as our actors do by other means than these poor creatures possess. On the present occasion there was not time for excitement; our's was as it were a family corrobori, or private theatricals, in which we were let into the secrets of what takes place behind the scenes. A party of the Darling natives had lately visited the Murray, and had taught our friends their corrobori, in which, however, they were not perfect; and there was consequently a want of that excitement which is exhibited when they have their lesson at their fingers' ends, and are free to give impulse to those feelings, which are the heart and soul of a corrobori.

We had some difficulty in persuading our friends to exhibit, and we owed success rather to Mr. Eyre's influence than any anxiety on the part of the natives themselves. However, at last we persuaded the men to go and paint themselves, whilst the women pre-

pared the ground. It was pitch dark, and ranging themselves in a line near a large tree, they each lit a small fire, and had a supply of dry leaves to give effect to the acting. On their commencing their chanting, the men came forward, emerging from the darkness into the obscure light shed by the yet uncherished fires, like spectres. After some performance, at a given signal, a handful of dry leaves was thrown on each fire, which instantly blazing up lighted the whole scene, and shewed the dusky figures of the performers painted and agitated with admirable effect, but the fires gradually lowering, all were soon again left in obscurity.

But, as I have observed, for some reason or other the thing was not carried on with spirit, and we soon retired from it; nevertheless, it is a ceremony well worth seeing, and which in truth requires some little nerve to witness for the first time.

We had now arrived at Camboli's haunt, and were introduced by him to his wife and children, of whom he seemed very proud; but a more ugly partner, or more ugly brats, a poor Benedict could not have been blessed with. Whether it was that he wished to remain behind, for he had not been very active on the road, or taken that interest in our proceedings which Nadbuck had done; or that our praises of his wife and pickaninnies had had any effect I know not, but he would not leave his family, and so remained with them when we left on the following morning. The neighbourhood of our

camp was, however, one of great celebrity—since in it some of the most remarkable and most tragical events had taken place. It was near it that the volunteers who went out to rescue Mr. Inman's sheep, which had been seized by the natives to the number of 4,000, were driven back and forced to retreat; not, I would beg to be understood, from want of spirit, but because they were fairly overpowered and caught in a trap. The whole of the party, indeed, behaved with admirable coolness, and one of them, Mr. Charles Hawker, as well as their leader, Mr. Fidd, shewed a degree of moderation and forbearance on the occasion that was highly to their credit. Here also was the Hornet's Nest, where the natives offered battle to my gallant friend, Major O'Halloran, whose instructions forbade his striking the first blow. I can fancy that his warm blood was up at seeing himself defied by the self-confident natives; but they were too wise to commence an attack, and the parties, therefore, separated without coming to blows. Here, or near this spot also, the old white-headed native, who used to attend the overland parties, was shot by Miller, a discharged soldier, I am sorry to say, of my own regiment. This old man had accompanied me for several days in my boat, when I went down the Murray to the sea coast in 1830, and I had made him a present, which he had preserved, and shewed to the first overland party that came down the river, and thenceforward he became the guide of the parties that

followed along that line. He attended me when I came overland from Sydney, in 1838, on which occasion he recognised me, and would sleep no where but at my tent door. He was shot by Miller in cold blood, whilst talking to one of the men of the party of which unfortunately he had the charge; but retribution soon followed. Miller was shortly afterwards severely wounded by the natives; and, having aneurism of the heart, was cautioned by his medical attendant never to use violent exercise; but, disregarding this, when he had nearly recovered, he went one day to visit a friend at the gaol in which he ought to have been confined, and in springing over a ditch near it, fell dead on the other side, and wholly unprepared to appear before that tribunal, to which he will one day or other be summoned, to answer for this and other similar crimes.

About a dozen natives followed us from our camp, on the morning of the 8th. We again struck the creek, on which we had rested, and which had turned to our right at 2½ miles on an east by south course, and followed along its banks, until it again trended too much to the south. We crossed alluvial flats of considerable extent, on which there was an abundance of grass. Just at the point at which we turned from the creek, we ascended a small sand hill, covered with the amaryllis, then beautifully in flower. The latitude of this little hill, from which the cliffs on the most northern reach of the Murray bore N. 170° E. distant four miles, was

33° 57′ 11″; so that the Murray does not extend northwards beyond latitude 34° 1′ or thereabouts. We again struck the creek, the course of which had been marked by gum-trees, at six miles, and were forced by it to the N.E., but ultimately turned it and descended southwards to the river; but as we were cut off from it we encamped on a lagoon of great length, backed by hills of a yellow and white colour, the rock being a soft and friable sandstone, slightly encrusted with salt. We had, shortly before we halted, passed a salt lagoon in the centre of one of the grassy flats, but such anomalies are not uncommon in the valley of the Murray. That part of the river which I have described, from the point where we shot the bullock to this lagoon, appeared to me admirably adapted for a cattle station, and has since been occupied as such.

As I have observed, the lagoon on which we encamped was backed by hills of 150 or 200 feet elevation, which were covered with thick brushwood. The flat between us and these hills was unusually barren, and all the trees at the side of the lagoon were dead. Whether this was owing to there being salt in the ground or to some other cause, there was here but little grass for the cattle to eat, so that, although they were watched, twenty of them managed to crawl away, and we were consequently delayed above an hour and a half after our usual hour of starting, and commenced our day's journey wanting two of our complement, but we stumbled upon them in passing

through the brush, in which they were very comfortably lying down. We travelled for about six miles through a miserable undulating country of sand and scrub. At noon we were abreast of a little sandy peak that was visible from our camp, and is a prominent feature hereabouts. This peak Mr. Browne and I ascended, though very little to our gratification, for the view from it was as usual over a sea of scrub to whatever quarter we turned. The peak itself was nothing more than a sandy eminence on which neither tree or shrub was growing, and the whole locality was so much in unison with it, that we called it "Mount Misery." After passing this hill, and forcing through some stunted brush, we debouched on open plains and got once more on the overland road, which was distinctly marked by a line of bright green grass, that was springing up in the furrows the drays had left. This road took us to the edge of a precipitous embankment, from which we overlooked the river flowing beneath it. This embankment was 60 or 70 feet high, and presented a steep wall to the river; for although the Murray had lost the fossil cliffs it was still flanked by high level plains on both sides, and cliffs of 100 or 120 feet in height, composed of clay and sand, rose above the stream, the faces of which presented the appearance of fretwork, so deeply and delicately had they been grooved out by rains. The soil of this upper table land was a bright red ferruginous clay and sand. The vegetation was chiefly salsolaceous, but

there was, notwithstanding, no want of grass upon it, though the tufts were very far apart. If our cattle had fared badly at our last camp, they had no reason to complain at this; for we encamped on a beautifully green flat, about seven miles short of the Rufus, and about eight from the nearest point of Lake Victoria. There were now seventeen natives in our train, amongst whom was one of remarkable character. This was "Pulcanti," who was engaged in, wounded and taken prisoner at an affair on the Rufus, to which I shall again have to allude.

Whilst the police were conveying this man handcuffed to Adelaide, he threw himself off the lofty cliffs at the Great Bend into the river beneath, and attempted to escape by swimming across it, but he was recaptured and taken safe to Adelaide, where subsequent kind treatment had considerable influence on his savage disposition. His attempt to escape was of the boldest kind, and was spoken of with astonishment by those who witnessed it, but so desperate an act only proved how much more these people value liberty than life. I am sure that bold savage would have submitted to torture without a groan; he was the most repulsive native in aspect that I ever saw, and had a most ferocious countenance. The thick lip and white teeth, the lowering brow, and deep set but sharp eye, with the rapidly retiring forehead all betrayed the savage with the least intellect, but his demeanour was now quiet and inoffensive.

Mr. Eyre again preceded us to the Rufus, with Kenny and Tenbury ; for although we had been disappointed in seeing any natives at Lake Bonney, it was hardly to be doubted but that we should find a considerable number at Lake Victoria.

We joined Mr. Eyre about noon at the junction of the Rufus with the Murray, and which serves like Hawker's Creek as a channel of communication between that river and the Murray. Here Mr. Eyre had collected 69 natives, who were about to go out kangarooing when he arrived. They had their hunting spears and a few waddies, but no other weapons.

We had now arrived at Nadbuck's native place, and he left us to join his family, promising still to accompany us up the Darling. A principal object Mr. Eyre had in joining me had been to distribute some blankets to those natives who, living in the distance, seldom came to Moorundi to benefit by the distribution of food and clothing there. In the position we now occupied we were flanked by the Rufus to our left, and had the Murray in front of us. The ground in our rear and to our right was rather bushy, and numerous Fusani, covered with fruit, were growing there; Lake Victoria being about four miles to our rear also. Considering the spirit of the natives on this part of the Murray, the position was not very secure, as we were too confined ; but I had no apprehension of any attack from them, they having for some time shewn a more pacific dispo-

sition, and against whom we were otherwise always well prepared. As soon, therefore, as the tents were pitched, we walked together along the bank of the Rufus to its junction with the lake, but not seeing any of the native families we turned back, until observing some young men on the opposite side of the channel we called to them, and one of them ferried us over in a canoe. We had then a long round of visits to make to the different families of the natives, since they were all encamped on the eastern or opposite side of the Rufus.

The first huts to which we went happened to be that of our friend Nadbuck, and he introduced us, as Camboli had done, to his wives and children, of whom the old gentleman was very proud. We then visited eleven other huts in succession, after which we returned to the place where the canoe had been left, with twelve patriarchs, to whom Mr. Eyre (wisely selecting the oldest) intended making some presents. We were again ferried across the Rufus, the current setting strong into Lake Victoria at the time, and had well nigh gone down in our frail bark, to the infinite amusement of our Charon. We had just time, however, to reach the bank and to get out of her when she went down.

It was at this particular spot that the natives sustained so severe a loss when Pulcanti was taken. They got between two fires, that of Mr. Robinson's party of overlanders, with whom they had been fighting for three days; and a party of police who,

providentially for Mr. Robinson, came up just in time to save him from being overwhelmed by numbers. Astonished at finding themselves taken in flank, the blacks threw themselves into the Rufus, and some effected their escape, but about forty fell, whose grave we passed on our way back to the camp.

The natives who accompanied us pointed out the mound to Mr. Eyre and myself as we walked along, and informed us that thirty of their relatives laid underneath; but they did not seem to entertain any feelings of revenge for the loss they had sustained.

On the morrow, my worthy friend left me, on his return to Moorundi, together with Kenny and Tenbury, and a young native of the Rufus. We all saw them depart with feelings of deep regret; but Mr. Eyre had important business to attend to which did not admit of delay.

A little before Mr. Eyre mounted his horse, I had sent Mr. Browne, with Flood and Pulcanti, to the eastward, to ascertain how high the back-waters of the Murray had gone up the Ana-branch of the Darling, since that ancient channel laid right in our way, and I was anxious if possible to run up it, rather than proceed to the river itself, as being a much nearer line. In the afternoon Mr. Poole and I moved the camp over to the lake, and on the following day I directed him to ascertain its circumference, as we should be detained a day or two awaiting the return of Mr. Browne.

CHAPTER III.

MR. BROWNE'S RETURN—HIS ACCOUNT OF THE COUNTRY—CHANGE OF SCENE—CONTINUED RAIN—TOONDA JOINS THE PARTY—STORY OF THE MASSACRE—LEAVE LAKE VICTORIA—ACCIDENT TO FLOOD—TURN NORTHWARDS—CROSS TO THE DARLING—MEET NATIVES—TOONDA'S HAUGHTY MANNER—NADBUCK'S CUNNING—ABUNDANCE OF FEED—SUDDEN FLOODS—BAD COUNTRY—ARRIVAL AT WILLIORARA—CONSEQUENT DISAPPOINTMENT—PERPLEXITY—MR. POOLE GOES TO THE RANGES—MR. BROWNE'S RETURN—FOOD OF THE NATIVES—POSITION OF WILLIORARA.

LAKE VICTORIA is a very pretty sheet of water, 24 miles in diameter, very shallow, and at times nearly dry. As I have previously observed of Lake Bonney, it is connected with the Murray by the Rufus, and by this distribution of its waters, the floods of the Murray are prevented from being excessive, or rising above a certain height.

The southern shore of Lake Victoria is very picturesque, as well as the line of the Rufus. The latter however is much wooded, whereas the S.W. shore of the lake is low and grassy, and beautiful umbrageous trees adorn it, in number not more than two or three to the acre. As Mr. Poole was engaged near me, I remained stationary on the 13th, but on the following day moved the camp seven miles to

the westward, for his convenience. On the 15th I again moved so as to keep pace with him, and was highly delighted at the really park-like appearance of the scenery. This pretty locality is now occupied as a cattle run, and must be a place of amusement as well as profit.

We met Mr. Browne and Flood on their return to the camp from the journey on which I had sent them, about an hour before we halted.

Mr. Browne informed me that the day he left me he rode for some miles along the shore of the lake, and that after leaving it he encamped in the scrub, having travelled about seventeen miles. The brush was very dense, although there were open intervals; it consisted of trees and shrubs of the usual kind, the soil was very sandy, and there was a good deal of spinifex upon it.

The next day, still on a due east course (that on which he had travelled from the lake), and at five miles from where he had slept, Mr. Browne came on a salt lake, about 800 yards in circumference. A third of the bed was under water, and half of the remainder was white with crystallized salt, that glittered in the sun's rays, and looked like water at a distance. At about five miles farther on there were two other lakes of the same kind, but both were dry and without any salt deposits in their beds. At five miles beyond these lakes Mr. Browne intersected the Ana-branch of the Darling, which I had detached him to examine. To within a short dis-

tance of the Ana-branch the country was similar to that through which he had passed the day before, but on nearing it he crossed an open plain. This old channel of the Darling had been crossed by Mr. Eyre on a recent journey to the north, but at that time was dry. Where Mr. Browne struck it the banks were rather high, and its course was N.W. by W. It was about eighty yards wide, with a strong current running upwards, caused by the back waters of the Murray. Its general course for 12 miles was N. by E. The country was very open, and high banks, similar to those on the Murray, occurred alternately on either side. The channel maintained the same appearance as far as Mr. Browne; rode and as he found the waters still running upwards, he considered that the object of his journey was attained, and that we should find no difficulty in pursuing our route northwards along this new line. It may be necessary for me to inform the reader that no water ever flows down the Ana-branch from the north. When Mr. Eyre first arrived on its banks it was dry, and he was consequently obliged to cross the country to the Darling itself, a distance of between 40 and 50 miles. Pulcanti, the native I sent with Mr. Browne, however, made a rough sketch of the two channels, by which it appeared that the Ana-branch held very much to the eastward, in proof of which he pointed to a high line of trees, at a great distance, as being the line of the river Darling. Considering from this that, even if water failed us in the Ana-branch, we

should have no difficulty in crossing to the main stream, and that however short our progress might be, it would greatly curtail our journey to Laidley's Ponds, I decided on trying the new route.

Mr. Browne saw a great many red kangaroos (foxy); some very young, others very large; and he chased a jerboa, which escaped him. He also saw a new bird with a black crest, about the size of a thrush.

The morning of the 14th had been cloudy, but the day was beautifully fine; so that we had really enjoyed our march, if so it might be called. From our tents there was a green and grassy slope to the shore of the lake, with a group of two or three immense trees, at distances of several hundred yards apart, and the tranquil waters lay backed by low blue hills.

On the morning of the 15th the barometer fell to 27·672, the thermometer standing at 56°, at 8 A.M. The air was heavy, the sky dull, and the flies exceedingly troublesome. All these indications of an approaching change in the weather might have determined me to remain stationary, but I was anxious to push on. I therefore directed Mr. Poole to complete the survey of the lake, and at eleven moved the whole party forward.

The picturesque scenery which had, up to this point, adorned the shores of Lake Victoria ceased at two miles, when we suddenly and at once found ourselves travelling on sand, at the same time amidst reeds. The rich soil disappeared, the trees becoming

stunted and low. As the travelling was also bad, we went along the margin of the lake, where the sand was firm, although marked with ripples like those left on the sea-shore by the tide, between the water and a line of rubbish and weeds inside of us, so that it appeared the lake had not yet risen so high as the former year. We had moved round to its eastern side, which being its lea side also, the accumulation of rubbish and sand was easily accounted for. We traversed about eight miles of as dreary a shore as can be imagined, backed, like Lake Bonney, by bare sand hills and barren flats, and encamped, after a journey of thirteen miles, on a small plain, separated from the lake by a low continuous sand ridge, on which the oat-grass was most luxuriant. The indications of the barometer did not deceive us, for soon after we started it began to rain, and did not cease for the rest of the day, the wind being in the N.E. quarter.

It continued showery all night, nor on the morning of the 16th was there any appearance of a favourable change. At nine a steady and heavy rain setting in we remained stationary.

The floods in the Rufus had obliged us to make a complete circuit of the lake, so that we had now approached that little stream to within six miles from the eastward. Our friend Nadbuck, therefore, thinking that we were about to leave the neighbourhood, rejoined the party. With him about eighty natives came to see us, and encamped close to our tents;

forty-five men, sixteen women, and twenty-six children. I sent some of the former out to hunt, but they were not successful.

Amongst the natives there were two strangers from Laidley's Ponds, the place to which we were bound. The one was on his way to Moorundi, the other on his return home. Pulcanti had given us a glowing account of Laidley's Ponds, and had assured us that we should not only find water, but plenty of grass beyond the hills to the N.W. of that place. This account the strangers confirmed; and the one who was on his way home expressing a wish to join us, I permitted him to do so; in the hope that, what with him and old Nadbuck, we should be the less likely to have any rupture with the Darling natives, who were looked upon by us with some suspicion. I was, in truth, very glad to take a native of Williorara up with me, because I entertained great doubts as to the reception we should meet with from the tribe, on our arrival there, in consequence of the unhappy occurrence that took place between them and Sir Thomas Mitchell, during a former expedition; and I hoped also to glean from this native some information as to the distant interior. Both the Darling natives were fine specimens of their race. One in particular, Toonda, was a good-looking fellow, with sinews as tough as a rope. It also appeared to me that they had a darker shade of colour than the natives of the Murray.

Nadbuck turned out to be a merry old man, and a perfect politician in his way, very fond of women and jimbuck (sheep), and exeeedingly good-humoured with all. He here brought Davenport a large quantity of the fruit of the Fusanus, of which he made an excellent jam, too good indeed to keep; but if we could have anticipated the disease by which we were afterwards attacked, its preservation would have been above all price. The natives do not eat this fruit in any quantity, nor do I think that in its raw state it is wholesome. They appeared to me tol ive chiefly on vegetables during the season of the year that we passed up the Murray, herbs and roots certainly constituted their principal food.

I had hoped that the weather would have cleared during the night, but in this I was disappointed. On the 17th we had again continued rain until sun-set, when the sky cleared to windward and the glass rose. We were however unable to stir, and so lost another day. About noon Nadbuck came to inform me that the young native from Laidley's Ponds, who was on his way to Moorundi, had just told him that only a few days before he commenced his journey, the Darling natives had attacked an overland party coming down the river, and had killed them all; in number fifteen. I therefore sent for the lad, and with Mr. Browne's assistance examined him. He was perfectly consistent in his story; mentioned the number of drays, and said that the white fellows were all asleep when the natives attacked them

amongst the lagoons, and that only one native, a woman, was killed; the blacks, he added, had plenty of shirts and jackets. Doubtful as I was of this story, and equally puzzled to guess what party could have been coming down the Darling, it was impossible not to give some little credit to the tale of this young cub; for he neither varied in his account or hesitated in his reply to any question. I certainly feared that some sad scene of butchery had taken place, and became the more anxious to push my way up to the supposed spot, where it was stated to have occurred, to save any one who might have escaped. I felt it my duty also before leaving Lake Victoria to report what I had heard to the Governor.

As the barometer fell before the rain, so it indicated a cessation of it, by gradually rising. The weather had indeed cleared up the evening before, but the morning of the 18th was beautifully fine and cool; we therefore yoked up the cattle and took our departure from Lake Victoria at 9 A.M. At first the ground was soft, but it soon hardened again. Shortly after starting we struck a little creek, which trended to the south, so that we were obliged to leave it, but we could trace the line of trees on its banks to a considerable distance. We traversed plains of great extent, keeping on the overland road until at length we gained the river, and encamped on a small neck of land leading to a fine grassy enclosure, into which we put our cattle. One side of this enclosure was flanked by the river, the other by a beautiful lagoon,

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that looked more like a scene on Virginia water than one in the wilds of Australia.

As we crossed the plains we again observed numerous cattle tracks, and regularly beaten paths leading from the brushes to the river, to the very point indeed where we encamped. The natives had previously informed us, as far back as the place where we shot the first bullock, that we should fall in with other cattle hereabouts; we did not however see any of them during the day. Our tents were pitched on the narrow neck of land leading to an enclosure into which we had turned our animals. It was so narrow indeed that nothing could pass either in or out of it without being observed by the guard, so that neither could our cattle escape or the wild ones join them. It was clear, however, that we had cut off the latter from their favourite pasture, for at night they were bellowing all round us, and frequently approached close up to our fires. We had no difficulty in distinguishing the lowing of the heifers from that of the bullocks; of which last there appeared to be a large proportion in the herd.

Some of our cattle were getting very sore necks, and our loads at this time were too heavy for me to relieve them. Flood therefore suggested our trying to secure two or three of the bullocks running in the bush. We therefore arranged that a party should go out in the morning to scour the wood, and drive any cattle they might find towards the river, at which I was to be prepared to entice them to our

Capt.n Sturt del.

ANA-BRANCH OF THE DARLING.

animals. Accordingly Mr. Poole and Mr. Browne, with Flood and Mack, started at sunrise. It was near twelve, however, when Mr. Browne returned with Flood, who had met with a sad accident, and had three of the first joints of the fingers of his right hand carried off by the discharge of his fusee whilst loading. He had incautiously put on the cap and was galloping at the time, but kept his seat. Mr. Browne informed me they had seen a great many cattle, but that they were exceedingly wild, and started off the moment the horsemen appeared, insomuch that they could not turn them, and it was with a view to drive them towards the river that Flood fired at them. However none approached the camp. Mr. Poole returned late in the afternoon equally unsuccessful. Mr. Browne dressed Flood's hand, who bore it exceedingly well, and only expressed his regret that he should be of no use on the Darling in the event of any rupture with the natives. I remained stationary, as Mr. Browne thought it would be necessary to keep Flood quiet for a day or two. On the following day we resumed our journey, and reached the junction of the ancient channel of the Darling with the Murray about 11. The floods were running into it with great velocity, and the water had risen to a considerable height, so that many trees were standing in it. I remained here until noon, when a meridian altitude placed us in lat. 34° 4′ 34″. We then bade adieu to the Murray, and turned northwards to overtake the party, which under Nadbuck's guidance had cut off

the angle into which we had gone. With the Murray we lost its fine trees and grassy flats. The Ana-branch had a broad channel and long reaches of water; but was wholly wanting in pasture or timber of any size. The plains of the interior formed the banks, and nothing but salsolæ grew on them. We encamped at eight miles from the junction, where there happened to be a little grass, but were obliged to keep the cattle in yoke and the horses tethered to prevent their wandering. As we advanced up the Ana-branch on the following day, its channel sensibly diminished in breadth, and at eleven miles we reached a hollow, beyond which the floods had not worked their way. Here we found a tribe of natives, thirty-seven in number, by whom the account we had heard of the massacre of the overlanders at the lagoons of the Darling was confirmed. Nadbuck now informed me that we should have to cross the Ana-branch and go to the eastward, and that it would be necessary to start by dawn, as we should not reach the Darling before sunset. Nadbuck had now become a great favourite, and there was a dry kind of humour about him that was exceedingly amusing, at the same time that his services were really valuable.

Toonda, on the other hand, was a man of singular temperament. He was good-looking and more intelligent than any native I had ever before seen. His habit was spare, but his muscles were firm, and his sinews like whipcord He must indeed have had great confidence in his own powers to have under-

taken a journey of more than 200 miles from his own home. He was very taciturn, and would rather remain at the officers' fire than join his fellows.

The country we had passed through during the day had been miserable. Plains of great extent flanked the Ana-branch on either side, on which there were sandy undulations covered with stunted cypress trees or low brush.

Flood had from the time of his accident suffered great pain; but as he did not otherwise complain, Mr. Browne did not entertain any apprehension as to his having any attack of fever.

On the morning of the 24th, the natives paid us an early visit with their boys, and remained at the camp until we started. At the head of the water they had made a weir, through the boughs of which the current was running like a sluice; but the further progress of the floods was stopped by a bank that had been gradually thrown up athwart the channel. Crossing the Ana-branch at this point, we struck across barren sandy plains, on a N.N.E. course. From them we entered a low brush, in which there were more dead than living trees. At four miles this brush terminated, and we had again to traverse open barren plains. At their termination we had to force our way through a second brush, consisting for the most part of fusani, acaciæ, hakeæ, and other low shrubs, but there were no cypresses here as in the first brush. On gaining more open ground, the country gradually rose before us, and a ferruginous conglomerate cropped out in places.

We at length began our descent towards the valley of the Darling. The country became better wooded: the box-tree was growing on partially flooded land, and there was no deficiency of grass. Mr. Browne went on a-head with Toonda and Flood, whilst I and Mr. Poole remained with the party. From the appearance of the country, however, I momentarily expected to come on the river; but the approach to it from the westward is extremely deceptive, and we had several miles of box-tree flats to traverse before the gum-trees shewed their white bark in the distance. We reached the Darling at half-past five, as the sun's almost level beams were illuminating the flats, and every blade of grass and every reed appeared of that light and brilliant green which they assume when held up to the light. The change from barrenness and sterility to richness and verdure was sudden and striking, and nothing certainly could have been more cheering or cheerful than our first camp on the Darling River. The scene itself was very pretty. Beautiful and drooping trees shaded its banks, and the grass in its channel was green to the water's edge. Evening's mildest radiance seemed to linger on a scene so fair, and there was a mellow haze in the distance that softened every object. The cattle and horses were up to their flanks in grass and young reeds, and plants indicative of a better soil, such as the sowthistle, the mallow, peppermint, and indigofera were growing in profusion around us. Close to our tents there was a large and hollow gum-tree, in which a new

fishing net had been deposited, but where the owner intended to use it was a puzzle to us, for it was impossible that any fish could remain in the shallow and muddy waters of the Darling; which was at its lowest ebb, and the current was so feeble that I doubted if it really flowed at all. Whether the natives anticipated the flood which shortly afterwards swelled it I cannot say, although I am led to believe they did, either from habit or experience.

So abundant had been the feed that none of the cattle stirred out of sight of the camp, and we should have started at an early hour, but for the visit of an old native, the owner of the net we had discovered. It was with some hesitation that he crossed the river to us, but he did so; and as soon as he saw me he recognised me as having been in the boat on the Murray in 1830, though fourteen years had passed since that time, and he could only have seen me for an hour or two. He was not, however, singular in his recollection of me, since one of the natives of the Ana-branch also recollected me; and Tenbury, the native constable at Moorundi, not only knew me the moment he saw me, but observed that a little white man sat by my side in the stern of the boat, and that I had something before me, which was a compass. There was a suspicious manner about our visitor, for which we could not very well account; but it arose from doubts he entertained as to the safety of his net, for after he had seen that it had not been taken away, his demeanour changed, and he expressed great satisfaction that we had not touched it.

We commenced our journey up the Darling at nine o'clock, on a course somewhat to the eastward of north. We passed flat after flat of the most vivid green, ornamented by clumps of trees, sufficiently apart to give a most picturesque finish to the landscape. Trees of denser foliage and deeper shade drooped over the river, forming long dark avenues, and the banks of the river, grassed to the water, had the appearance of having been made so by art.

We halted, after a journey of fourteen miles, on a flat little inferior to that we had left, and again turned the cattle out to feed on the luxuriant herbage around them.

The Darling must have been in the state in which we found it for a great length of time, and I am led to infer, from the very grassy nature of its bed, that it seldoms contains water to any depth, or length of time, since in such case the grass would be killed. Its flats, like those of the Murray, are backed by lagoons, but they had long been dry, and the trees growing round them were either dead or dying.

With the exception of the tribe at the Ana-branch, and the old man, we had seen no natives since leaving the Murray; but, from the reports we had heard of the recent massacre of the overland party at Williorara, and the character of the Darling blacks, I was induced to take double precautions as I journeyed up the river, and had the camp so formed that it could not be surprised. Two drays were ranged close to each other on either side, the boat carriage formed a face to the rear, and the tents occupied the

front; thus leaving sufficient room in the centre to fold the sheep in netting. The guard, augmented to six men, occupied a tent at one angle. My own tent was in the centre of the front, and another tent at the angle opposite the guard tent. So that it would have been difficult for the natives to have got at the sheep (which they most coveted), without alarming us. Still, although we had no apprehension of the natives, both Nadbuck and Toonda were constantly on the watch, and it was evident the former considered himself in no mean capacity at this time. He put on an air of great importance, and shewed great anxiety about our next interview with the natives; but Toonda took everything quietly, and there was a haughty bearing about him, that contrasted strangely with the bustling importance of his companion.

We here heard that there was a large encampment of natives about three miles above us, but none of them ventured to our camp; nor, it is more than probable, were the people aware of our being in the neighbourhood; but our friend Nadbuck, as I have stated, was in a great bustle, and shewed infinite anxiety on the occasion. Neither were his apprehensions allayed on the following morning when we started. He went in advance to prepare the natives for our approach, and to ask permission for us to pass through their territory, but returned without having found them. Not long afterwards it was reported that the natives were in front.

On hearing this the old gentleman begged of me

to stop the party, and away he went, full of bustle and importance, to satisfy himself. In a few minutes he returned and said we might go on. We had halted close to the brow of a gentle descent into a small creek junction at this particular spot, and on advancing a few paces came in view of the natives, assembled on the bank of the river below. Men only were present, but they appeared to have been taken by surprise, and were in great alarm. They had their spears for hunting, and a few hostile weapons, but not many; and certainly had not met together with any hostile intention.

Some of the men were very good looking and well made, but I think the natives of the Darling generally are so. They looked with astonishment on the drays, which passed close to them; and I observed that several of them trembled greatly. At this time Nadbuck had walked to some little distance with two old men, holding each by the hand in the most affectionate manner, and he was apparently in deep and earnest conversation with them. Toonda, on the other hand, had remained seated on one of the drays, until it descended into the creek. He then got off, and walking up to the natives, folded his blanket round him with a haughty air, and eyed the whole of them with a look of stern and unbending pride, if not of ferocity. Whether it was that his firmness produced any effect I cannot say, but after one of the natives had whispered to another, he walked up to Toonda and saluted him, by putting his hands on his shoulders and bending his head

until it touched his breast. This Toonda coldly returned, and then stood as frigid as before, until the drays moved on, when he again resumed his seat and left them without uttering a word. Nadbuck had separated from his friends, after having as it seemed imparted to them some important information, and coming up to myself and Mr. Browne, whispered to us, "Bloody rogue that fellow, you look after jimbuck." The contrast between these two men was remarkable: the crafty duplicity of the one, and the haughty bearing of the other. But I am led to believe that there was some latent cause for Toonda's conduct, since he asked me to shoot the natives, and was so excited that he pushed his blanket into his mouth, and bit it violently in his anger. On this I offered him a pistol to shoot them himself, but he returned it to me with a smile. Of course it will be understood that I should not have allowed him to fire it.

Two of the old men followed when we left the other natives, to whom I made presents in the afternoon; but it is remarkable that many of them trembled whilst we staid with them, and although their women were not present, they hovered on the opposite bank of the Darling all the time. We kept wide of the river almost all day, travelling between the scrub and lagoons, but we had occasionally to ascend and cross ridges of loose sand, over which the bullock-drivers were obliged to help each other with their teams. There was not the slightest change in the character of the distant

interior, but the vicinity of the Darling was thickly timbered for more than three-quarters of a mile from its banks, but the wood was valueless for building purposes.

I was exceedingly surprised at the course of the river at this point. We had gone a good deal to the eastward the day before, but on this day we sometimes travelled on a course to the southward of east, and never for the whole day came higher up than east by north. The consequence was, that we proceeded into a deep bight, and made no progress northwards up the river. At our camp it had dwindled to a mere thread, so narrow was the line of water in its bed. Its banks were as even and as smooth as those of a fortification, and covered with a thick, even sward. There was no perceptible current and the water was all muddy; but the scenery in its precincts was still verdant and picturesque, grassy flats with ornamental trees succeeding each other at every bend of the stream.

The dogs killed a large kangaroo on the plains, the greater part of which we gave to the natives, all indeed but a leg, which Jones, whose duty it was to feed them, reserved for the dogs. Yet this appropriation excited Toonda's anger. "Kangaroo mine, sheep yours," said he, threatening Jones with his waddy; but he soon recovered his temper, and carried off his share of the animal, subduing his feelings with as much apparent facility as he had given vent to them.

About this time the weather had become much warmer, although we had occasional cold winds. We

started early on the morning of the 27th, without the intention of making a long journey, because the bullocks had been kept in yoke all night. We travelled for six miles over firm and even plains, but soon afterwards got upon deep sand, through which the teams fairly ploughed their way. I therefore turned towards the river, and encamped on the first flat we reached, having run about ten miles on an east-north-east course.

We here found the Darling so diminished in size, and so still, that I began to doubt whether or not we should find water higher up. Its channel, however preserved the appearance of a canal, with sloping grassy sides, shaded by trees of drooping habit and umbrageous foliage, but the soil of the flats had become sandy, and they appeared to be more subject to inundation than usual.

About this time I regretted to observe that many of the bullocks had sore necks, and I was in consequence obliged to make a different distribution of them; an alternative always better if possible to avoid, as men become attached to their animals, and part even with bad ones reluctantly.

On counting our sheep at this camp, I found that we had 186 remaining. Toonda came as usual to take his share of one that had just been killed; but I said, No! that, according to his own shewing, he had no claim to any—thinking this the best way of speaking to his reason.

He seemed much astonished at the view I took of

the matter, but on his acknowledging himself in error, I forgave his recent ebullition and allowed him his wonted meal; for, although I was always disposed to be kind to the natives, I still felt it right to shew them that they were not to be unruly. Neither is it without great satisfaction that I look back to the intercourse I have had with these people, from the fact of my never having had occasion to raise my arm in hostility agianst them.

The cattle fared well on the luxuriant grass into which they had been turned when we halted, and as they had no inducement to wander, so they were close to the camp at daybreak, and we started at 7 on an east-north-east course, which at a mile we changed to a northerly one; but soon afterwards finding that a pine ridge crossed our course, and extended to the banks of the river, I turned to the north-west to avoid it, but the country becoming generally sandy I again turned towards the stream, and by going round the sandy points instead of over them, lessened the labour to the cattle, although I increased the distance. We were glad to find that the Darling held a general northerly course, or one somewhat to the westward of that point, for we had during the last three or four days made a great deal of easting, and I had thus been prevented making the rapid progress I anticipated to Laidley's Ponds.

I had observed for more than twenty miles below us that the immediate precincts of the river were not so rich in soil, or the flats so extensive as at

first; they now however began to open out, and assumed the character and size of those of the Murray. The state of the two rivers however was very different, for the Darling still continued without breadth or current, (I speak of its appearance in lat. 33° 43′ S.) whilst the Murray ever presents its bright and expanded waters to the view.

We had communicated with a native tribe the day before that of which I am now speaking, and again this day fell in with another, which we evidently took by surprise. All the men had their spears, but on seeing us approach they quietly deposited them under a tree. Amongst these people there was another native who recognised me as an old acquaintance of fourteen years' standing; but I began to doubt these patriarchs, to whom I generally made a present for old acquaintance sake. This tribe numbered forty-eight. All of them were handsome and well-made men, though short in stature, and their lower extremities bore some proportion to their busts.

For the first time this day we observed a ferruginous sandstone in the bed of the Darling, and saw it cropping out from under the sand hills on the western extremity of the flats.

Shortly after leaving the natives we arrived at a small plain, where they could only just have killed a kangaroo that was lying on the ground partly prepared for cooking. On seeing it I ordered the dogs to be tied up, and left it untouched. Indeed

if I had been fortunate enough to kill a kangaroo at this place, I would have given it to these poor people. Three of them, who afterwards came to our camp, mentioned the circumstance, and seemed to be sensible of our feelings towards them. There can be no doubt but that the Australian aboriginal is strongly susceptible of kindness, as has been abundantly proved to me, and to the influence of such feeling I doubtlessly owe my life; for if I had treated the natives harshly, and had thrown myself into their power afterwards, as under a kind but firm system I have ever done without the slightest apprehension, they would most assuredly have slain me; and when I assure the reader that I have traversed the country in every direction, meeting numerous tribes of natives, with two men only, and with horses so jaded that it would have been impossible to have escaped, he will believe that I speak my real sentiments. Equally so the old native, (to whom the net we discovered in the hollow of a tree where we first struck the Darling belonged), evinced the greatest astonishment and gratification, when he found that his treasure had been untouched by us.

The flats of the Darling are certainly of great extent, but their verdure reached no farther than the immediate precincts of the river at this part of its course. Beyond its immediate neighbourhood they are perfectly bare, but lightly wooded, having low and useless box-trees (the *Gobero* of Sir Thomas

Mitchell), growing on them. Their soil is a tenacious clay, blistered and rotten. These flats extend to uncertain distances from the river, and vary in breadth from a quarter of a mile to two miles or more. Beyond them the country is sandy, desolate, and scrubby. Pine ridges, generally lying parallel to the stream, render travelling almost impracticable where they exist, whilst the deep fissures and holes on the flats, into which it is impossible to prevent the drays from falling, give but little room for selection. Our animals were fairly worn out by hard pulling on the one, and being shaken to pieces on the other.

Some days prior to the 29th, Mr. Browne and I, on examining the waters of the river, thought that we observed a more than usual current in it; grass and bark were floating on its surface, and it appeared as if the water was pushed forward by some back impulse. On the 28th it was still as low as ever; but on the morning of the 29th, when we got up it was wholly changed. In a few hours it had been converted into a noble river, and had risen more than five feet above its recent level. It was now pouring along its muddy waters with foaming impetuosity, and carrying away everything before it. Whence, it may be asked, come these floods? and was it from the same cause that the Murray, as Tenbury stated, rose so suddenly? Such were the questions that occurred to me. From the natives I could gather nothing satisfactory. We were at this

time between three and four hundred miles from the sources of the Darling, and I could hardly think that this fresh had come from such a distance. I was the more disposed to believe, perhaps, because I hoped such would be the case, that it was caused by heavy rains in the hills to the north-west of Laidley's Ponds, and that it was pouring into the river through that rivulet.

The natives who had accompanied us from the last tribe left at sunset, as is their custom, after having received two blankets and some knives. Being anxious to get to Laidley's Ponds, I started early, with the intention of making a long journey, but circumstances obliged me to halt at six miles. We crossed extensive and rich flats the whole of the way, and found as usual an abundance of feed for our cattle. It would perhaps be hazardous to give an opinion as to the probable availability of the flats of the Darling: those next the stream had numerous herbs, as spinach, indigoferæ, clover, etc., all indicative of a better soil; but the out flats were bare of vegetation, although there was no apparent difference in their soil. One peculiarity is observable in the Darling, that neither are there any reeds growing in its channel or on the flats.

Our journey on the last day of September terminated at noon, as we arrived at a point from which it was evident the river takes a great sweep to the eastward; and Nadbuck informed me that by going direct to the opposite point, where, after coming up

again, it turned to the north, we should cut off many miles, but that it would take a whole day to perform the journey. I determined therefore to follow his advice, and to commence our journey across the bight at an early hour the following morning, the 1st of October. I availed myself of the remainder of the day to examine the country for some miles to the westward, but there was no perceptible change in it. The same barren plains, covered sparingly with salsolæ and atriplex, characterised this distant part of the interior; and sandy ridges covered with stunted cypress trees, acaciæ, hakeæ, and other similar shrubs, proved to me that the productions of it were as unchanged as the soil.

As we had arranged, we broke up our camp earlier than usual on the 1st of October, for, from what Nadbuck had stated, I imagined that we had a long journey before us; but after going fifteen miles, we gained the river, and found that it was again trending to the north. It had now risen more than bank high, and some of its flats were partly covered with water. We had kept a N.N.W. course the whole day, and crossed hard plains without any impediment; but, although we kept at a great distance from the stream, we did not observe any improvement in the aspect of the country.

Our specimens, both of natural history and botany, were as yet very scanty; but we found a new and beautiful shrub in blossom, on some of the plains as we crossed the bight; and Mr. Browne discovered

three nests of a peculiar rat, that have been partially described by Sir Thomas Mitchell.

Mr. Browne was fortunate enough to secure one of these animals, which is here figured. The nests they construct are made of sticks, varying in length from three inches to three feet, and in thickness from the size of a quill to the size of the thumb. They were arranged in a most systematic manner, so as to form a compact cone like a bee-hive, four feet in diameter at the base, and three feet high. This fabric is so firmly built, as to be pulled to pieces with difficulty. One of these nests had five holes or entrances from the bottom, nearly equi-distant from each other, with passages leading to a hole in the ground, beneath which I am led to conclude they had their store. There were two nests of grass in the centre of the pyramid, and passages running up to them diagonally from the bottom. The sticks, which served for the foundations of the nests, were not more than two or three inches long, and so disposed as to form a compact flooring, whilst the roofs were arched. The nests were close together, but in separate compartments, with passages communicating from the one to the other.

In a pyramid that we subsequently opened, there was a nest nearly at the top; so that it would appear that these singular structures are common to many families, and that the animals live in communities. The heap of sticks, thus piled up, would fill four large-sized wheel-barrows, and must require infinite labour.

Mus conditor Gould.

Hullmandel & Walton Lithographers.

THE COMMITTEE OF THE GOULDIAN RESEARCH OF THE ZOOLOGICAL SOCIETY

This ingenious little animal measures six inches from the tip of the nose to the tail, which is six inches long. The length of the head is two and a half inches, of the ears one and a quarter, and one inch in breadth. Its fur is of a light brown colour, and of exceedingly fine texture. It differs very little in appearance from the common rat, if I except the length of its ears, and an apparent disproportion in the size of the hind feet, which were large. The one figured is a male, which I obtained from one of the natives who followed us to the camp.

At this period of our journey the weather was exceedingly cold, and the winds high. We were about 45 miles from Laidley's Ponds; but could not, from the most elevated point, catch a glimpse of the ranges in its neighbourhood. It appeared to me that the river flats were getting smaller on both sides of it, the river still continuing to rise. It was now pouring down a vast body of water into the Murray. There was, however, an abundance of luxuriant pasture along its banks. Late in the afternoon the lubras (wives) of the natives, at our camp, made their appearance on the opposite side of the river, and Nadbuck, who was a perfect gallant, wanted to invite them over; but I told him that I would cut off the head of the first who came over with my long knife—my sword. The old gentleman went off to Mr. Browne, to whom he made a long complaint, asking him if he really thought I should execute my threat. Mr. Browne assured him that

he was quite certain I should not only cut off the lubra's head, but his too. On this Nadbuck expressed his indignation; but however much he might have ventured to risk the lubra's necks, he had no idea of risking his own.

One of the natives who visited us at this place was very old, with hair as white as snow. To this man I gave a blanket, feeling assured it would be well bestowed; although a circumstance occurred that had well nigh prevented my behaving with my usual liberality to the natives who were here with us. The butcher had been killing a sheep, and carelessly left the steel, an implement we could ill spare, under the tree in which he had slung the animal: and it was instantly taken by the natives. On hearing this, I sent for Nadbuck and Toonda, and told them that I should not stir until the steel was brought back, or make any more presents on the river. On this there was a grand consultation between the two. Toonda at length went to the natives, who had retired to some little distance, and, after some earnest remonstrances, he walked to the tree near which the sheep had been killed, and, after looking at the ground for a moment, began to root up the ground with his toes, when he soon discovered the stolen article, and brought it to me. The thief was subsequently brought forward, and we made him thoroughly ashamed of himself; although I have no doubt the whole tribe would have applauded his dexterity if he had succeeded.

The day was exceedingly cold, as the two or three previous ones had been, but still the temperature was delightful. We travelled, on this day, across the river flats, which again opened out to a distance of two or three miles; the ground, however, was of a most distressing character, and we had to cross several sandy points projecting into them, so that the poor animals were much jaded. This, however, was only the beginning of their troubles, for we were, in like manner, obliged to travel for several successive days over the same kind of ground—land on which floods have gradually subsided, and which has been blistered and cracked by solar heat. Travelling on this kind of ground was, indeed, more distressing to the cattle than even the hard pull over sand; for it was impossible for the bullock-drivers to steer clear of the many fissures and holes on these flats, and the shock, when the drays fell into any of them, was so great, that it shook the poor brutes almost to pieces.

From this period to the 9th there was a sameness in our progress up the Darling. On the 3rd we crossed a small creek, into which the waters of the river were flowing fast; and which both Nadbuck and Toonda informed us joined Yertello Lake, and that the Ana-branch was on the other side of the lake. This explanation accounted to us for a statement made by Toonda, shortly after he first joined us, that the Ana-branch hereabouts formed a great lake. On the 4th a little rain fell, but not in such quantity as to

interfere with our travelling. On the 5th we passed a tribe of natives, in number about thirty-four. We were again led by Nadbuck across the country, to avoid the more circuitous route along the river. We passed through a more pleasing country than usual, and one that was better timbered and better grassed than it had been at any distance from the river.

I have mentioned that Toonda was attended by a young lad, his nephew, who, with another young lad, joined us at Lake Victoria. These two young lads used to keep in front with myself or Mr. Poole, or Mr. Browne, and were quite an amusement to us. This day both of them disappeared, not very long after we passed the last tribe. On making inquiries I ascertained, to my surprise, that they had been forcibly taken back by three men from the last tribe, and that both cried most bitterly at leaving the party. The loss of his nephew greatly afflicted poor Toonda, who sobbed over it for a long time. We could not understand why the natives had thus detained the boys; but, I believe, they were members of that tribe, between which and a tribe higher up the river some ground of quarrel existed. After the departure of these boys we had only three natives with us, who had been with the party from Lake Victoria, *i. e.* Nadbuck, Toonda, and Munducki, a young man who had attached himself to Kirby, who cooked for the men. The latter turned out to be a son of old Boocolo, a chief of the Williorara tribe, whom I shall, ere long,

have occasion to introduce to the reader. Mr. Browne, with the assistance of Nadbuck, gathered a good deal of information from the natives then with us, as to the inhospitable character of the country to the north-west of the Williorara, or Laidley's Ponds, that agreed very little with the accounts we had previously heard. They stated that we should not be able to cross the ranges, as they were covered with sharp pointed stones and great rocks, that would fall on and crush us to death; but that if we did get across them to the low country on the other side, the heat would kill us all. That we should find neither water or grass, or wood to light a fire with. That the native wells were very deep, and that the cattle would be unable to drink out of them; and, finally, that the water was salt, and that the natives let down bundles of rushes to soak it up.

Such was the account the natives gave of the region into which we were going. We were of course aware that a great deal was fiction, but I was fully prepared to find it bad enough. From the opinion I had formed of the distant interior, and from my knowledge of the country, both to the eastward and westward of me, I had no hope of finding it good within any reasonable distance.

Prepared, however, as I was for a bad country, I was not prepared for such as the natives described.

It was somewhat strange, that as we neared the supposed scene of the slaughter of the overlanders, we should fail in obtaining intelligence regarding it;

neither were the natives, who must have participated in it, so high up the river as we now were, afraid of approaching us, as they undoubtedly would have been if they had been parties to it. I began, therefore, to suspect that it was one of those reports which the natives are, unaccountably, so fond of spreading without any apparent object in view.

As we approached Williorara the course of the river upwards was somewhat to the westward of north. The country had an improved appearance as we ascended it, and grass seemed to be more generally distributed over the flats. We passed several large lagoons, which had already been filled from the river, and were much pleased with the picturesque scenery round them.

On the 7th Jones broke the pole of his dray, and Morgan again broke his shaft, but we managed to repair both without the loss of much time—and made about ten miles of northing during the day.

We hereabouts shot several new birds; and the dogs killed a very fine specimen of the *Dipus* of Mitchell, but, unfortunately, in the scuffle, they mangled it so much that we could not preserve it.

On the 8th the weather was oppressively hot, but we managed to get on some fifteen miles before we halted.

Our journey up the Darling had been of greater length than I had anticipated, and it appeared to me that I could not do better than reduce the ration of flour at this early stage of the expedition to pro-

vide the more certainly for the future. I accordingly reduced it to eight pounds a week, still continuing to the men their full allowance of meat and other things.

Nadbuck had assured me on the 9th that if the bullocks did not put out their tongues we should get to Laidley's Ponds that day, but I hardly anticipated it myself, although I was aware we could not be many miles from them.

We had a great many natives in the neighbourhood at our encampment of the 8th, but they did not approach the tents. Their families generally were on the opposite side of the river, but one man had his lubra and two children on our side of it. My attention was drawn to him, from his perseverance in cutting a bark canoe, at which he laboured for more than an hour without success. Mr. Browne walked with me to the tree at which he was working, and I found that his only tool was a stone tomahawk, and that with such an implement he would hardly finish his work before dark. I therefore sent for an iron tomahawk, which I gave to him, and with which he soon had the bark cut and detached. He then prepared it for launching by puddling up its ends, and putting it into the water, placed his lubra and an infant child in it, and giving her a rude spear as a paddle pushed her away from the bank. She was immediately followed by a little urchin who was sitting on the bank, the canoe being too fragile to receive him; but he evidently doubted his ability to gain the opposite bank of the river, and it was most

interesting to mark the anxiety of both parents as the little fellow struck across the foaming current. The mother kept close beside him in the canoe, and the father stood on the bank encouraging his little son. At length they all landed in safety, when the native came to return the tomahawk, which he understood to have been only lent to him. However I was too much pleased with the scene I had witnessed to deprive him of it, nor did I ever see a man more delighted than he was when he found that the tomahawk, the value and superiority of which he had so lately proved was indeed his own. He thanked me for it, he eyed it with infinite satisfaction, and then turning round plunged into the stream and joined his family on the opposite bank.

We journeyed as usual over the river flats, and occasionally crossed narrow sandy parts projecting into them. From one of these Mr. Poole was the first to catch a glimpse of the hills for which we had been looking out so long and anxiously. They apparently formed part of a low range, and bore N.N.W. from him, but his view was very indistinct, and a small cone was the only marked object he could distinguish. He observed a line of gum-trees extending to the westward, and a solitary signal fire bore due west from him, and threw up a dark column of smoke high into the sky above that depressed interior. A meridian altitude placed us in latitude 32° 33′ 00″ S., from which it appeared that we were not more than eight or ten miles from

Laidley's Ponds, but we halted short of them, and received visits from a great many of the natives during the afternoon, who came to us with their families, a circumstance which led me to hope that we should get on very well with them. Poor Toonda here heard of the death of some relative during his absence, and had a great cry over it. He and the native who communicated the news sat down opposite to one another with crossed legs, and their hands on each other's shoulders. They then inclined their heads forward, so as to rest on each other's breasts and wept violently. This overflow of grief, however, did not last long, and Toonda shortly afterwards came to me for some flour for his friend, who he said was very hungry.

As it appeared to me that we should have to remain for some time in the neighbourhood of Laidley's Ponds, I had directed my inquiries to the state of the country near them, and learnt both from Nadbuck and Toonda, that we should find an abundance of grass for the cattle. I was not however very well satisfied with the change that had taken place within a few miles, in the appearance of the river, and the size of the flats, these latter having greatly diminished, and become less verdant. On the 10th we started on a west course, but at about a mile changed it for a due north one, which we kept for about five miles over plains rather more than usually elevated above the river flats. From these plains the range

was distinctly visible, now bearing N. 10° E., and N. 26° and 38° W., distant 35 miles. It still appeared low, nor could we make out its character; three cones marked its southern extremity, and I concluded that it was a part of Scrope's Range. With the exception of these hills there were none other visible from Laidley's Ponds.

The ground whereon we now travelled was hard and firm, so that we progressed rapidly, and at five miles descended into a bare flat of whitish clay, on which a few bushes of polygonum were alone growing under box-trees. At about two hundred yards we were stopped by a watercourse, into which the floods of the Darling were flowing with great velocity. It was about fifty yards broad, had low muddy banks, and was decidedly the poorest spot we had seen of the kind. This, Nadbuck informed me, was the Williorara or Laidley's Ponds, a piece of intelligence at which I was utterly confounded. I could not but reproach both him and Toonda for having so deceived me; but the latter said he had been away a long time and that there was plenty of grass when he left. Nadbuck, on the other hand, said he derived his information from others, and only told me what they told him. Be that as it may, it was impossible for me to remain in such a place, and I therefore turned back towards the Darling, and pitched my tents at its junction with the Williorara.

For three or four days prior to our arrival at Laidley's Ponds, the upward course of the river had been somewhat to the west of north. The course of Laidley's Ponds was exceedingly tortuous, but almost due west. The natives explained to us that it served as a channel of communication between two lakes that were on either side of it, called Minandichi and Cawndilla. They stated that the former extended between the Darling and the ranges, but that Cawndilla was to the westward at the termination of Laidley's Ponds, by means of which it is filled with water every time the Darling rose; but they assured me that the waters had not yet reached the lake. It was nevertheless evident that we were in an angle, and our position was anything but a favourable one. From the point where we had now arrived the upward course of the Darling for 300 miles is to the N.E., that which I was anxious to take, was to the W.N.W. It was evident, therefore, that until every attempt to penetrate the interior in that direction had proved impracticable, I should not have been justified in pushing farther up the river. My hopes of finding the Williorara a mountain stream had been wholly disappointed, and the intelligence both Mr. Eyre and I had received of it from the Murray natives had turned out to be false, for instead of finding it a medium by which to gain the hills, I now ascertained that it had not a course of more than nine or

ten miles, and that it stood directly in my way. We were as yet ignorant what the conduct of the natives towards us would be, having seen none or very few who could have taken part in the dispute between Sir Thomas Mitchell and the Williorara tribe in 1836. Expecting that they might be hostilely disposed towards us, I hesitated leaving the camp, lest any rupture should take place between my men and the natives during my absence; much less could I think of fortifying the party in a position from which, in the event of an attack, they would find it difficult to retreat. I thought it best therefore to move the camp to a more distant situation with as little delay as possible, and send Mr. Poole to visit the ranges, and ascertain from their summit the probable character of the N.W. interior.

Having come to this decision, I procured a guide to accompany that officer to the hills, who accordingly started for them, with Mr. Stuart, my draftsman, the morning after our arrival at the ponds. Some of the natives had informed us that there was plenty of feed at the head of Cawndilla Lake, a distance of seven or eight miles to the W.S.W.; but we could not understand from them how far the waters of the Darling had passed up the creek, although it was clear from what they said that they had not yet reached Cawndilla. My instructions to Mr. Poole were framed with a view to our removal from our present position

nearer to the ranges, and I therefore told him to cross the creek at the head of the water, and if he should find grass there, to return to the camp, if not, to continue his journey to the hills, and use every effort to find water and feed. We had had a good deal of rain during the night of the 10th; the morning of the 11th was hazy, with the wind at S.W., and there appeared to be every prospect of continued wet. Under less urgent circumstances, therefore, I should have detained Mr. Poole until the weather cleared, but our movements at this time were involved in too much uncertainty to admit of delay. I had hoped that the morning would have cleared, but a light rain set in and continued for several days.

We had seen fewer natives on the line of the Darling than we had expected; but as we approached Williorara they were in greater numbers. Our tents were hardly pitched at that place, when, as I have observed, we were visited by the local tribe, with their women and children, who sat down at some little distance from the drays, and contented themselves with watching our motions. I had tea made for the ladies, of which they seemed to approve highly, and gave the youngsters two or three lumps of sugar a-piece. The circumstance of the women and children thus venturing to us, satisfied me that no present hostile movement was contemplated by the men; but, not-

withstanding that there was a seeming friendly feeling towards us, there was a suspicious manner about them, which placed me doubly on my guard, and caused me to doubt the issue of our protracted sojourn in the neighbourhood.

I had several of the natives in my tent, and with Mr. Browne's assistance questioned them closely as to the character of the country to the north-west, but we could gather nothing from what they said. They spoke of it in terror, as a region into which they did not dare to venture, and gave me dreadful accounts of the rocks and difficulties against which I should have to contend. They agreed, however, in saying that there was both water and grass at the lake; in consequence, I sent Mr. Browne with Nadbuck to examine the locality on the morning of the 12th, as the distance was not greater than from six to seven miles. He returned about one P. M., and informed me that there was plenty of feed for the cattle, and water also; but that the water was at least a mile and a half from the grass, which was growing in tufts round the edge of the lake. It appeared that the Williorara made a circuitous and extensive sweep and entered Cawndilla on the opposite side to that of the river, so that he had to cross a portion of the lake, and thus found that the floods had not reached it. Mr. Browne also stated that the extent of the lake was equal to that of Lake Victoria, but that it could at no time be more than eighteen inches deep. It was indeed nothing more than a shallow basin filled by

river floods, and retaining them for a short time only. Immense numbers of fish, however, pass into these temporary reservoirs, which may thus be considered as a providential provision for the natives, whose food changes with the season. At this period they subsisted on the barilla root, a species of rush which they pound and make into cakes, and some other vegetables; their greatest delicacy being the large caterpillar (laabka), producing the gum-tree moth, an insect they procure out of the ground at the foot of those trees, with long twigs like osiers, having a small hook at the end. The twigs are sometimes from eight to ten feet long, so deep do these insects bury themselves in the ground.

Mr. Browne communicated with a tribe of natives, one of whom, a very tall woman, as well as her child, was of a copper colour.

From the information he gave me of the neighbourhood of Cawndilla, I determined, on the return of Mr. Poole, and in the event of his not having found a better position, to move to that place; for it was evident from his continued absence that he must have crossed the creek at a distance from the lake, and not seeing any grass in its neighbourhood, had pushed on to the hills. I was now anxious for his return, for we had had almost ceaseless though not heavy rain since he left us. On the 12th, the day he started, we had thunder; on the 13th it was showery, with wind at N.W., and the thermometer

at 62° at 3 P. M., and the barometer at 29.742; the boiling point of water being 211.25.

Assuming Sir Thomas Mitchell's data to be correct, my position here was in long. 142° 5′ E., and in lat. 32° 25′ S.

CHAPTER IV.

TOONDA'S TRIBE—DISPOSITION OF THE NATIVES—ARRIVAL OF CAMBOLI—HIS ENERGY OF CHARACTER—MR. POOLE'S RETURN—LEAVE THE DARLING—REMARKS ON THAT RIVER—CAWNDILLA—THE OLD BOOCOLO—LEAVE THE CAMP FOR THE HILLS—REACH A CREEK—WELLS—TOPAR'S MISCONDUCT—ASCEND THE RANGES—RETURN HOMEWARDS—LEAVE CAWNDILLA WITH A PARTY—REACH PARNARI—MOVE TO THE HILLS—JOURNEY TO N. WEST—HEAVY RAINS—RETURN TO CAMP—MR. POOLE LEAVES—LEAVE THE RANGES—DESCENT TO THE PLAINS—MR. POOLE'S RETURN—HIS REPORT—FLOOD'S CREEK—AQUATIC BIRDS—RANGES DIMINISH IN HEIGHT.

Toonda left us on our arrival at this place, to go to his tribe at Cawndilla, but returned the day Mr. Poole left us, with the lubras and children belonging to it, and the natives now mustered round us to the number of sixty-six. Nadbuck, who the reader will have observed was a perfect lady's man, made fires for the women, and they were all treated as our first visitors had been with a cup of tea and a lump of sugar. These people could not have shewn a greater mark of confidence in us than by this visit; but the circumstances under which we arrived amongst them, the protection we had given to some of their tribe, and the kind treatment we had adopted towards the natives generally, in some measure accounted for this, nevertheless there was a certain restlessness amongst the men that satisfied

me they would not have hesitated in the gratification of revenge if they could have mustered sufficiently strong, or could have caught us unprepared.

It was clear that the natives still remembered the first visit the Europeans had made to them, and its consequences, and that they were very well disposed to retaliate. It was in this matter that Nadbuck's conduct and representations were of essential service, for he did not hesitate to tell them what they might expect if they appeared in arms. Mr. Poole was short and stout like Sir Thomas Mitchell, and personally very much resembled him; moreover, he wore a blue foraging cap, as, I believe, Sir Thomas did; be that as it may, they took Mr. Poole for that officer, and were exceedingly sulky, and Nadbuck informed us that they would certainly spear him. It was necessary, therefore, to explain to them that he was not the individual for whom they took him, and we could only allay their feelings by the strongest assurances to that effect; for some time, indeed, they were inclined to doubt what we said, but at length they expressed great satisfaction, and to secure himself still more Mr. Poole put on a straw hat. Nevertheless, there were manifestations of turbulence amongst the younger men on several occasions, and they certainly meditated, even though, for particular reasons, they refrained from any act of violence.

The constant rain had made the ground in a sad state. There was scarcely any stirring out of the tents into the tenacious clay of the flat in which they

were pitched; and the Darling, continuing to rise, overflowed its banks, drove our cattle from their feed, and obliged us to send them to a more distant point. In the midst of all this we were, on the 13th, most agreeably surprised by the appearance of our friend Camboli, with two other natives from Lake Victoria. Camboli brought despatches and letters in reply to those I had sent from the lake. It is impossible to describe the unaffected joy this poor native evinced on seeing us again. He had travelled hard to overtake us, and his condition when he arrived, as well as that of his companions proved that they had not spared themselves; but neither of them shewed the same symptoms of fatigue as Camboli. His thighs and ancles, and the calves of his legs were much swollen, and he complained of severe pain in his back and loins; but he was excited beyond measure, and sprang about with surprising activity whilst his comrades fell fast asleep. "Papung," he exclaimed, meaning paper or letters. "I bring papung to Boocolo," meaning me; "to Sacoback," meaning Doctor Browne; "and Mr. Poole, from Gobbernor," the Governor; "Hugomattin," Mr. Eyre; "Merilli," Mr. Scott of Moorundi; "and Bullocky Bob. Papung Gobbernor, Boocolo, Hugomattin." Nothing could stop him, nor would he sit still for a moment. There were, at the fire near the tents, a number of the young men of the Williorara tribe; and it would appear, from what occurred, that they were talking about us in no friendly strain. Certain it is that they made some remark which

highly offended our lately-arrived envoy, for he sud denly sprang upon his feet, and, seizing a carabine, shook it at them in defiance, and, pointing to the tents, again shook it with all the energy and fearlessness of a savage, and he afterwards told us that the natives were "murry saucy." The scene was of a kind that is seldom if ever witnessed in civilized life.

The reader may be assured we took good care of him and his companions; but his excitement continued, even after he had laid down to sleep; yet, he was the first man up on the following morning, to cut a canoe for Mr. Browne, who wished to cross the river, with a young lad of the name of Topar, a native of the place, who had been recommended to me by Mr. Eyre, a fine handsome young man, about eighteen years of age, and exceedingly prepossessing in appearance; but I am sorry to say with very few good qualities. He was a boy about eight when Sir Thomas Mitchell visited the neighbourhood, and, with his mother, was present at the unfortunate misunderstanding between his men and the natives on that occasion.

The bark was not in a fit state to be stripped from the tree, so that Camboli had a fatiguing task, but he got the canoe ready in sufficient time for Mr. Browne to cross the river and visit Sir Thomas Mitchell's last camp, which I had intended doing myself, in order to connect it with my own, if circumstances had not, at that time, prevented me.

Mr. Poole returned on the 15th, after an absence of four days and a half. He informed me that he had

crossed the creek, as I had imagined, where there was little or no vegetation in its vicinity. He then took up a north-west course for the hills, and rode over flats of polygonum for nine miles, when he crossed the bed of a large lagoon; arriving at a round hill, somewhat detached from the main range, at half-past one, and searched about for water, but found none, neither could the native point out any to him. He therefore descended to the plains, and encamped.

On the following morning Mr. Poole again crossed the hill he had ascended the day before, but at half-past one changed his course for a high peak on the same range, on the summit of which he arrived at 2 P.M.; but the day was unfavourable, and the bearings from it consequently uncertain. The following morning being clear he again ascended the hill, and took the following bearings:—To the point of a distant range N. 54° W.; to a very distant cone, 00 or due north; to a peak in a distant range, S. 40° W.; to a lake, S. 20° W.; and to another distant range, S. 65° W. The country between the ranges Mr. Poole had ascended and the more distant ones, appeared to be flat, and covered with brush and speargrass. There was an appearance of water between the ranges, and they looked like islands in an immense lake. He did not think he could have been deceived by the effect of mirage; but felt satisfied, according to his own judgment, that he had seen a large body of water to the

N.W. Mr. Poole did not succeed in finding any convenient place to which to remove the party, and his guide persisting in his statement that there was no water in the hills, he thought it better to return to the camp.

However doubtful I might have been as to the reality of the existence of water in the direction to which Mr. Poole referred, it was clear that there were other and loftier ranges beyond those visible from the river. Taking everything into consideration, I determined on moving the camp to Cawndilla, and on proceeding myself to the north-west as soon as I should have established it in a secure place.

I was employed on the 16th in reporting our progress to the Governor, as Nadbuck and Camboli were to leave us in the afternoon on their return to Lake Victoria. Both were exceedingly impatient to commence their journey, but when I came out with the bag old Nadbuck evinced great emotion and sorrow, nor could we look on the departure of our old and tried guide without regret. He had really served us well and faithfully, and if he had anything to do in propagating the several reports by which we had been deceived in our progress up the Darling, I believe it was with a view to prevent our going into a country from which he thought we should never return. We rewarded him as he deserved, and sent both him and his companions away with provisions sufficient to last them during the greater part of their journey, but we afterwards

learnt that with the improvident generosity of the savage, they had appointed to meet a number of their friends in the bush, and consumed their whole supply before sunset.

The weather had cleared, and as we were enabled to connect the Darling with the hilly country, I directed Mr. Poole to measure a base line from a point at the back of our camp to the westward. This base line ran along the sandy ridge above the flats of Laidley's Ponds towards Cawndilla, so that we had no detention, but left the Darling on the 17th.

The drays started early in the forenoon, but I remained until two, to take some lunars with Mr. Browne. At that hour we rode along the dray tracks, and at six miles descended into the bed of the lake, and crossing a portion of it arrived at the camp at half-past five. The floods were just crossing the dray tracks as we passed, and gradually advancing into the basin. The ground was cracked and marked with narrow but deep fissures into which the waters fell as they rolled onwards, and it was really surprising to see the immense quantity these chasms required to fill them.

Having taken leave of the Darling, it may be as well that I should make a few general remarks upon it. The reader will have observed from my description, that the scenery on the banks is picturesque and cheerful, that its trees though of smaller size than those on the Murray, are more graceful and have a denser foliage and more drooping habit,

and that the flats contiguous to the stream are abundantly grassy. I have described the river as I found it, but I would not have the reader suppose that it always presents the same luxuriant appearance, for not many months before this period my persevering friend Mr. Eyre, on a journey up its banks, could hardly find grass sufficient for his horses. There was not a blade of vegetation on the flats, but little water in the river, and the whole scenery wore a most barren appearance. Countries, however, the summer heat of which is so excessive, as in Australia, are always subject to such changes, nor is it any argument against their soil, that it should at one season of the year look bare and herbless. That part of the Darling between Laidley's Ponds and its junction with the Murray, a distance of about 100 miles in a direct line, had not been previously explored, nor had I time to lay it regularly down. I should say from the appearance of its channel that it is seldom very deep, frequently dry at intervals, and that its floods are uncertain, sudden, and very temporary. That they rise rapidly may be implied from the fact that in two days the floods we witnessed rose more than nine feet, and that they come from the higher branches of the river there can be no doubt, since the Darling has no tributary between Laidley's Ponds and Fort Bourke. I have no doubt but the whole line of the river will sooner or later be occupied, and that both its soil and climate will be found to suit the

purpose both of the grazier and the agriculturist. Be that as it may, I regretted abandoning it, for I felt assured that in doing so our difficulties and trials would commence.

Our camp at Cawndilla was on the right bank of the Williorara, about half a mile above where it enters the lake. Without intending it, we dispossessed the natives of the ground which they had occupied before our arrival, but they were not offended. Our tents stood on a sand bank close to the creek, and was shaded by gum-trees and banksias; behind us to the S.W. there were extensive open plains, and along the edge of the basin of Cawndilla, as well as to some distance in its bed, there was an abundance of feed for our cattle: the locality would be of great value as a station if it were near the located districts of South Australia.

The term Boocolo is I believe generally given to the chief or elder of the tribe, and thus was applied by the natives to me, as chief of the party. The boocolo of the Cawndilla tribe was an old man with grey hairs and rather sharp-features, below the ordinary stature, but well made and active. Of all the race with whom I have communicated, his manners were the most pleasing. There was a polish in them, a freedom and grace that would have befitted a drawing-room. It was his wont to visit my tent every day at noon, and to sleep during the heat; but he invariably asked permission to do this before he composed himself to rest, and generally

laid down at my feet. Differing from the majority of the natives, he never asked for anything, and although present during our meals kept away from the table. If offered anything he received it with becoming dignity, and partook of it without displaying that greedy voracity which the natives generally exhibit over their meals. He was a man, I should say, in intellect and feeling greatly in advance of his fellows. We all became exceedingly partial to this old man, and placed every confidence in him; although, as he did not understand the language of the Murray natives, we gained little information from him as to the remote country.

The boocolo of Cawndilla had two sons; but as the circumstances under which they were more particularly brought forward occurred on the return of the expedition from the interior, I shall not mention them here; but will conclude these remarks by describing an event that took place the day after our removal from the Darling. The men who had been out chaining left the flags standing after their work, and came to the camp. When Mr. Poole went out the next morning he found that one of them had been taken away. The natives, when charged with the theft, stoutly denied it, and said that it had been stolen by one of the Darling tribe in returning to the river. I therefore directed him, as he generally superintended the issue of presents and provisions to the natives, to stop all further supplies. The old boocolo failed in

his endeavours to recover the flag, and the natives who visited the camp were evidently under restraint. On the following day the boocolo came to my tent, and I spoke angrily to him. "Why," I asked, "has the black fellow taken that which did not belong to him? I do not take anything from you. I do not kill your kangaroos or take your fish." The old man was certainly much annoyed, and went out of the tent to our fire, at which there were several natives with whom he had an earnest conversation; this terminated by two of them starting for the Darling, from whence, on the following day, they brought back the flag and staff, which they said had been taken by three of the Darling natives as they had stated already. Probably such was the case, and we admitted the excuse.

The base line was completed on the 19th, and measured six miles. I was anxious to have made it of greater length, but the ground would not admit of it. The angles were necessarily very acute; but the bearings were frequently repeated, and found to agree. I was the less anxious on the point because my intention was to check any error by another line as soon as I could.

The position we had taken up was a very favourable one, since being on the right or northern bank of the creek, we were, by the flooding of the lake, cut off from the Darling natives. I now therefore determined on making an excursion into the interior to the N.W., to examine the ranges seen by Mr. Poole,

and to ascertain if, as he supposed, there was a body of water to the westward of them. With this view I engaged Topar to accompany us, and on the 21st left the camp, with Mr. Browne, Flood, and Morgan, taking the light cart with our provisions and some water-casks. During the recent rains the weather had been very cold, but excessive heat succeeded it. The day before we started the thermometer rose as high as 112° during a violent hot wind; and certainly if the following day had been equally warm we could not have proceeded on our journey. Fortunately for us, however, the wind shifted to the S.W. during the night, and the morning was cool and refreshing. I should have commenced this trip two or three days earlier, but on the 20th we were surprised by the reappearance of old Nadbuck, who had turned back with some natives he met on the way to our camp, with letters from Moorundi. The old man was really overjoyed to see us again. He said he had left Camboli well advanced on his journey, and that he would have reached Lake Victoria before he (Nadbuck) had reached us. Some of the letters he brought requiring answers, I was unable to arrange for my intended departure on the 19th. The 20th being a day of excessive heat, we could not have ventured abroad; but as I have stated, on the 21st we commenced the journey under more favourable circumstances than we had anticipated. The old boocolo took leave of Mr. Browne and myself,

according, I suppose, to the custom of his people, by placing his hands on our shoulders and bending his head so as to touch our breasts; in doing which he shed tears. Topar, seated on the cart, was followed by his mother who never expected to see him again. I had given Topar a blanket, which he now gave to his parent, and thus set off with us as naked as he was born. I mention this the more readily because I have much to detail to his discredit, and therefore in justice, I think, I am bound to record anything to his advantage. At a quarter of a mile from the camp we crossed the little sand hill which separates the two basins of Cawndilla and Minandichi, from which we descended into the flats of the latter, but at a mile rose, after crossing a small creek, to the level of the great plains extending between us and the ranges. Our first course over these plains was on a bearing of 157° to the west of south, or N.N.W. nearly. They were partly covered by brush and partly open; the soil was a mixture of clay and sand, and in many places they resembled, not only in that but in their productions, the plains of Adelaide. A good deal of grass was growing on them in widely distributed tufts, but mixed with salsolaceous plants. The trees consisted of a new species of casuarina, a new caparis, with some hakea, and several species of very pretty and fragrant flowering shrubs. At twelve miles we changed our course to 135° to the west of south, or N.W., and kept upon it for the remainder of the day, direct for a prominent hill in the ranges before

us.* The hills Mr. Poole had visited then bore a few degrees to the east of north, distant from twelve to fourteen miles, and were much lower than those towards which we were going, continuing northwards. The country as we advanced became more open and barren. We traversed plains covered with atriplex and rhagodiæ, in the midst of which there were large bare patches of red clay. In these rain water lodges, but being exceedingly shallow they soon dry up and their surfaces become cracked and blistered. From the point at which we changed our course the ground gradually rose, and at 26 miles we ascended a small sand hill with a little grass growing upon it. From this hill we descended into and crossed a broad dry creek with a gravelly bed, and as its course lay directly parallel to our own, we kept in the shade of the gum-trees that were growing along its banks. At about four miles beyond this point Topar called out to us to stop near a native well he then shewed us, for which we might in vain have hunted. From this we got a scanty supply of bad water, after some trouble in cleaning and clearing it, insomuch that we were obliged to bale it out frequently during the night to obtain water for our horses. This creek, like others, was marked by a line of gum-trees on either side; and from the pure and clean gravel in its bed, I was led to infer that it was subject to sudden floods. We could trace the line of trees upon it running upwards to the N.W. close up to the foot of the ranges, and

* Coonbaralba Station, No. 2.

down southwards, until the channel seemed to be lost in the extensive flats of that depressed region.

Topar called this spot "Murnco Murnco." As the horses had fared indifferently during our stay, and he assured us there was a finer well higher up the creek, we pushed on at an early hour the next morning, keeping on the proper right bank of the creek, and having an open barren country to the south, with an apparent dip to the south-west; to our left, some undulations already noticed by us, assumed more the shape of hills. The surface was in many places covered with small fragments of white quartz, which together with a conglomerate rock cropped out of the ground where it was more elevated. There was nothing green to meet the eye, except the little grass in the bed of the creek itself, and a small quantity on the plains.

At two miles on our former bearing Topar stopped close to another well, but it was dry and worthless; we therefore pushed on to the next, and after removing a quantity of rubbish, found a sufficiency of water both for ourselves and the horses, but it was bitter to the taste, and when boiled was as black as ink from the decoction of gum leaves; the water being evidently the partial and surface drainage from the hills. We stopped here however to breakfast. Whilst so employed, Topar's quick and watchful eye caught sight of some smoke rising from the bed of the creek about a mile above us. He was now all impatience to be off, to overtake the party who had kindled it. Nothing could ex-

ceed his vehement impetuosity and impatience, but this was of no avail, as the natives who had probably seen our approach, kept in front of us and avoided a meeting. We rode for five miles on our original bearing of 135° to the west of north, or N.W. the direct bearing of the hill for which we were making, Coonbaralba. At five miles Topar insisted on crossing the creek, and led us over the plains on a bearing of 157° to the west of north, thus changing his purpose altogether. He assigned as a reason that there was no water in the creek higher up, and that we must go to another place where there was some. I was somewhat reluctant to consent to this, but at length gave way to him; we had not however gone more than two and a half miles, when he again caught sight of smoke due west of us, and was as earnest in his desire to return to the creek as he had been to leave it. Being myself anxious to communicate with the natives I now the more readily yielded to his entreaties. Where we came upon it there was a quantity of grass in its bed, but although we saw the fire at which they had been, the natives again escaped us. Mr. Browne and Topar ran their track up the creek, and soon reached a hut opposite to which there was a well. On ascending a little from its bed they discovered a small pool of water in the centre of a watercourse joining the main branch hereabouts from the hills. Round this little pool there was an unusual verdure. From this point we continued to trace the creek upwards, keeping it in sight; but the ground was so stony

and rough, and the brush approached so close to the banks that I descended into its bed, and halted at sunset after a fatiguing day's journey without water, about which we did not much care; the horses having had a good drink not long before and their feed being good, the want of water was not much felt by them. Topar wished to go on to some other water at which he expected to find the natives, and did not hesitate for a moment in thus contradicting his former assertion. This however I would not allow him to do alone, but Mr. Browne good-naturedly walked with him up the creek, and at less than a mile came up on a long and beautiful pond. He informed me that it was serpentine in shape and more than eighty yards long, but as there was no grass in its neighbourhood I did not move to it. It was evident that Topar had intended leading us past this water, and it was owing to his anxiety to see the natives that we had now discovered it.

On the following morning I determined to take the direction of our movements on myself, and after we had breakfasted at the long water-hole, struck across the plains, and took up a course of 142° to the west of south for a round hill which I proposed ascending. Topar seeing us determined, got into a state of alarm almost bordering on frenzy; he kept shouting out "kerno, kerno," "rocks, rocks," and insisted that we should all be killed. This however had no effect on us, and we continued to move towards a spur, the ascent of which appeared to be less difficult than any other point

of the hills. We reached its base at 10 A.M., and had little trouble in taking the cart up. On gaining the top of the first rise, we descended into and crossed a valley, and ascending the opposite side found ourselves on the summit of the range, the surface being much less broken than might have been anticipated, insomuch that we had every hope that our progress amongst the hills would be comparatively easy; but in pushing for the one I wished to ascend, our advance was checked by a deep ravine, and I was obliged to turn towards another hill of nearly equal height on our left. We descended without much difficulty into a contiguous valley, but the ascent on the opposite side was too rough for the cart. We had pressed up it along a rocky watercourse, in which I was obliged to leave Morgan and Topar. Mr. Browne, myself, and Flood, with our horses reached the top of the hill at half-past twelve. Although the position commanded a considerable portion of the horizon there was nothing cheering in the view. Everything below us was dark and dreary, nor was there any indication of a creek to take us on to the north-west. We could see no gum-trees in that direction, nor indeed could we at an elevation of 1600 feet above the plains distinctly make out the covering of the ground below. It appeared to be an elevated table land surrounded by hills, some of which were evidently higher than that on which we stood.

The descent to the westward was still more precipitous than the side we had ascended. The pass

through which the creek issued from the hills was on our left, Coonbaralba being between us and it, but that hill was perfectly inaccessible; I thought it better therefore to return to sleep at the water where we had breakfasted, with a view to running the creek up into the ranges on the following morning. After taking bearings of the principal objects visible from our station, we rejoined Morgan and descended to the plains. There was a little water in the creek leading from the hill I had at first intended to ascend, to the S.W., which was no doubt a branch of the main creek. On our return we saw that beautiful flower the Clianthus formosa, in splendid blossom on the plains. It was growing amidst barrenness and decay, but its long runners were covered with flowers that gave a crimson tint to the ground.

The principal object I had in view during the excursion I was then employed upon, was if possible to find a proper position to which the party might move; for I foresaw that my absence would be frequent and uncertain, and although my men were very well disposed towards the natives, I was anxious to prevent the chance of collision or misunderstanding. I had now found such a position, for on examining the water-hole I felt satisfied that it might be depended upon for ten days or a fortnight, whilst the grass in its neighbourhood although dry was abundant. Wishing, however, to penetrate the ranges by the gap through which the creek issued from them, I still thought it

advisable to prosecute my intended journey up it. Accordingly on the 24th we mounted our horses and rode towards the hills. A little above where we had slept we passed a small junction from the westward, and at 7 miles entered the gap, the Coonbaralba, on the bearing of which we had run across the plains, being on our right. We had already passed several small water-holes, but at the entrance of the gap passed some larger ones in which the water was brackish, and these had the appearance of being permanent. Topar had shewn much indignation at our going on, and constantly remonstrated with us as we were riding along; however, we saw two young native dogs about a third grown, after which he bounded with incredible swiftness, but when they saw him they started off also. It was soon evident, that both were doomed to destruction, his speed being greater that that of the young brutes, for he rapidly gained upon them. The moment he got within reach of the hindmost he threw a stick which he had seized while running, with unerring precision, and striking it full in the ribs stretched it on the ground. As he passed the animal he gave it a blow on the head with another stick, and bounding on after the other was soon out of our sight. All we knew further of the chase, was, that before we reached the spot where his first prize lay, he was returning to us with its companion. As soon as he had secured his prey he sat down to take out their entrails, a point in which the natives are very particular. He

was careful in securing the little fat they had about the kidneys, with which he rubbed his body all over, and having finished this operation he filled their insides with grass and secured them with skewers. This done he put them on the cart, and we proceeded up the pass, at the head of which we arrived sooner than I expected. We then found ourselves at the commencement of a large plain. The hills we had ascended the day before trended to the north, and there was a small detached range running perpendicular to them on our right. To the south there were different points, apparently the terminations of parallel ranges, and westward an unbroken line of hills. The creek seemed to trend to the S.W., and in that direction I determined to follow it, but Topar earnestly entreated us not to do so. He was in great consternation; said here was no water, and promised that if we would follow him he would shew us water in which we could swim. On this condition I turned as he desired, and keeping along the western base of the main or front range, took up a course somewhat obtuse to that by which I had crossed the plains of Cawndilla. The productions on the ground were of a salsolaceous kind, although it was so much elevated above the plains, but amongst them there was not any mesembryanthemum. At about three miles we passed a very remarkable and perfectly isolated hill, of about 150 feet in height. It ran longitudinally from south to north for about 350 yards, and was bare of trees or shrubs, with the exception of one or two casuarinas.

The basis of this hill was a slaty ferruginous rock, and protruding above the ground along the spine of the hill there was a line of the finest hepatic iron ore I ever saw; it laid in blocks of various sizes, and of many tons weight piled one upon the other, without a particle of earth either on their faces or between them. Nothing indeed could exceed the clean appearance of these huge masses. On ascending this hill and seating myself on the top of one of them to take bearings, I found that the compass deviated 37° from the north point, nor could I place any dependance on the angles I here took.

At about nine miles the main range turned to the N.N.E., and Topar accordingly keeping near its base changed his course, and at five miles more led us into a pass in some respects similar to that by

which we had entered the range. It was however less confined and more open. Steep hills, with rocks in slabs protruding from many parts, flanked it to the south, whilst on its northern side perpendicular rocks, varying in height from 15 to 20 feet, over which the hills rose almost as perpendicularly more than 200 feet higher, were to be seen. Close under these was the stony bed of a mountain torrent, but it was also evident that the whole pass, about 160 yards broad, was sometimes covered by floods. Down this gully Topar now led us, and at a short distance, crossing over to its northern side, he stopped at a little green puddle of water that was not more than three inches deep. Its surface was covered with slime and filth, and our horses altogether rejected it. Some natives had recently been at the place, but none were there when we arrived. I was exceedingly provoked at Topar's treachery, and have always been at a loss to account for it. At the time, both Mr. Browne and myself attributed it to the machinations of our friend Nadbuck; but his alarm at invading the hilly country was too genuine to have been counterfeited. It might have been that Nadbuck and Toonda expected that they would benefit more by our presents and provisions than if we left them for the interior, and therefore tried by every means to deter us from going: they certainly had long conversations with Topar before he left the camp to accompany us. Still I may do injustice to them in this respect. However, whether this was the case or not, we had to suffer from

Topar's misconduct. I turned out of the pass, and stopped a little beyond it, in a more sheltered situation. Here Topar coolly cooked his dogs, and wholly demolished one of them and part of the other. In wandering about the gorge of the glen, Mr. Browne found a native well, but there was no water in it.

Our camp at Cawndilla now bore S.S.E. from us, distant 70 odd miles, and having determined on moving the party, I resolved to make the best of my way back to it. On the following morning, therefore, we again entered the pass, but as it trended too much to the eastward, I crossed a small range and descended at once upon the plains leading to the camp. At about 17 miles from the hills, Topar led us to a broad sheet of water that must have been left by the recent rains. It was still tolerably full, and water may perhaps be found here when there is none in more likely places in the hills. This spot Topar called Wancookaroo; it was unfortunately in a hollow from whence we could take no bearings to fix its precise position.

We halted at sunset on the top of a small eminence, from which the hills Mr. Poole had ascended bore E.N.E., and the hill at the pass N.W. We were suddenly roused from our slumbers a little before daylight by a squall of wind that carried away every light thing about us, hats, caps, etc. all went together, and bushes of atriplex also went bounding along like so many foot-balls. The wind became

piercing cold, and all comfort was gone. As morning dawned the wind increased, and as the sun rose it settled into a steady gale. We were here about forty miles from Cawndilla, nor do I remember having ever suffered so severely from cold even in Canada. The wind fairly blew through and through us, and Topar shivered so under it that Morgan gave him a coat to put on. As we seldom put our horses out of a walk, we did not reach the tents until late in the afternoon, but I never was more rejoiced to creep under shelter than on this occasion.

Every thing had gone on well during our absence, and Mr. Poole had kept on the most friendly terms with the natives.

I should have mentioned, that, as we descended from the hills, the quick eye of Topar saw a native at a great distance to our left, and just at the outskirt of a few trees. We should have passed him unperceived, but I requested Mr. Browne to ride up to and communicate with him. The poor fellow had dug a pit, for a Talperos,* big enough to hide himself in, and as he continued to work at it, did not see Mr. Browne approach, who stood mounted right over the hole before he called to him. Dire was the alarm of the poor native when he looked up and saw himself so immediately in contact with such a being as my companion must have appeared to him; but Mr. Browne considerately retired until he had recovered from his astonishment, and Topar, whom I sent to join them, coming up, he soon

* A native animal about the size of a rabbit, but longer in shape.

recovered his composure and approached the cart. As we had prevented the old man from securing his game, I desired Topar to give him the remains of the dog; but this he refused to do. I therefore ordered Morgan to take it from him, and told Topar I would give him an equivalent when we reached the camp. This native did not seem to be aware that the Darling was up, a piece of news that seemed to give him much joy and satisfaction. I kept my promise with Mr. Topar, but he deserved neither my generosity nor consideration.

Mr. Poole informed me that the fluctuations of temperature had been as great at Cawndilla as with us; that the day before, the heat likewise had been excessive, the thermometer having risen to 110°, on the day of our return it was down to 38°.

The natives appeared really glad to see us again, for I believe they had given us up for lost. My old friend shed tears when he embraced us, and Nadbuck, who still remained with Toonda, shewed the most unequivocal signs of joy.

Cawndilla bears about W.S.W. from the junction of the Williorara with the Darling, at a distance of from six to seven miles. We broke up our camp there on the 28th of October 1844, but, however easily Mr. Browne and I had crossed the plains to the north-west, it was a journey that I felt assured would try the bullocks exceedingly. The weather had again changed, and become oppressively hot, so that it behoved me to use every precaution, in thus abandoning the Darling river.

At early dawn Mr. Browne started with Flood, Cowley, and Kirby, in the light cart, to enlarge the wells at Curnapaga, to enable the cattle to drink out of them. Naturally humane and partial to the natives, he had been particularly kind to Toonda, who in his way was I believe really attached to Mr. Browne. This singular man had made up his mind to remain with his tribe, but when he saw the cart, and Mr. Browne's horse brought up, his feelings evidently overpowered him, and he stood with the most dejected aspect close to the animal, nor could he repress his emotion when Mr. Browne issued from the tents; if our route had been up the Darling, I have no doubt Toonda would still have accompanied us, but all the natives dreaded the country into which we were going, and fully expected that we should perish. It was not therefore surprising that he wavered, more especially as he had been a long time absent from his people, and there might be objections to his leaving them a second time. The real cause, however, was, I think, the overflowing of the Darling, and the usual harvest of fish, and incessant feasting the natives would have in consequence. Their god certainly is their belly, we must not therefore be surprised that Toonda wished to partake of the general abundance that would soon be at the command of his tribe, and probably that his assistance was required. However his heart failed him when he saw Mr. Browne mount his horse to depart, and he expressed his readiness to accompany us to the hills, but no farther. The Boocolo's son had

also volunteered to go so far with his friend the cook: when therefore at 8 A.M. I followed Mr. Browne with the remainder of the party, he and Toonda got on the drays. We took a kind leave of the Boocolo, who put his two hands on my head, and said something which I did not understand. It was however the expression of some kind wish at parting. The cattle got on very well during the early part of the day, and at noon we halted for two hours. After noon our progress was slow, and night closed in upon us, whilst we were yet some distance from the creek. We reached the little sand hill near it, to which we were guided by a large fire Flood had kindled at midnight, for it appeared that the horses had given in, and that Mr. Browne had been obliged to halt there. On leaving Cawndilla I sent Mr. Poole to Scrope's Range, to verify his bearings, and to enable Mr. Stuart to sketch in the hills, but he had not at this time rejoined me. At early dawn on the 29th, I accompanied Mr. Browne to the wells, leaving Mr. Piesse with the horse-cart and drays. We arrived there at nine, and by twelve, the time when the oxen came up, had dug a large pit under a rock on the left bank of the creek, which filled rapidly with water. The horses however were still in the rear, and I was ultimately obliged to send assistance to them. At 1 P.M. Mr. Poole and Mr. Stuart rejoined us. Two of our kangaroo dogs had followed them from Cawndilla, but one only returned, the other fell exhausted on the plains. Mr. Poole informed me that he had seen, but lost sight of Flood's signal fire,

and had therefore slept higher up on the creek. The animals, but the cart horses in particular, were still very weak when we left Curnapaga, on the 30th, nor is it probable we should have got them to the long water-hole if we had not fortunately stumbled on another little pool of water in a lateral creek about half way. After breakfasting here, we moved leisurely on, and reached our destination at half-past five, P.M. Sullivan shot a beautiful and new hawk (*Elanus scriptus*, Gould), which does not appear to extend farther south than where we here met it, although it wanders over the whole of the north-west interior as far as we went. There were some beautiful plants also growing in the bed of the creek; but we had previously met with so few things that we might here be said to have commenced our collection.

Parnari.

At this water-hole, "Parnari," we surprised three natives who were strangers. They did not betray any fear, but slept at the tents and left us the following day, as they said to bring more natives to visit us, but we never saw anything more of them. They were hill natives, and shorter in stature than the river tribes.

The day succeeding that of our arrival at Parnari was very peculiar, the thermometer did not rise higher than 81°, but the barometer fell to 28.730°, and the atmosphere was so light that we could hardly breathe. I had hoped that this would have been a prelude to rain, but it came not.

The period from the 1st to the 5th of November was employed in taking bearings from the loftiest points of the range, both to the northward and southward of us; in examining the creek to the south-west, and preparing for a second excursion from the camp.

The rock formation of Curnapaga was of three different kinds. A mixture of lime and clay, a tufaceous deposit, and an apparently recent deposit of soapstone, containing a variety of substances, as alumina, silica, lime, soda, magnesia, and iron. The ranges on either side of the glen were generally varieties of gneiss and granite, in many of which feldspar predominated, coarse ferruginous sandstone, and a siliceous rock with mammillary hematite and hornblende. These, and a great mixture of iron ores, composed the first or eastern line of Stanley's Barrier Range.

It will be remembered that in tracing up the creek on the occasion of our first excursion from Cawn-

dilla, that Topar had persuaded me, on gaining the head of the glen to go to the north, on the faith of a promise that he would take us to a place where there was an abundance of water, and that in requital he took us to a shallow, slimy pool, the water of which was unfit to drink. Mr. Browne and I now went in the direction we should have gone if we had been uninfluenced by this young cub, and at less than a hundred yards came upon a pretty little clear pool of water; that had been hid from our view by a turn of the creek. What motive Topar could have had in thus deceiving us, and punishing himself, is difficult to say. On our further examination of the creek, however, there was no more water to be found, and from the gravelly and perfectly even nature of its bed, I should think it all runs off as fast as the channel filled. Whilst I was thus employed, Mr. Poole and Mr. Stuart were on the ranges, and both, as well as the men generally, continued in good health; but I was exceedingly anxious about Mr. Browne, who had a low fever on him, and was just then incapable of much fatigue; nevertheless he begged so hard to be permitted to accompany me on my contemplated journey, that I was obliged to yield.

I had been satisfied from the appearance of the Williorara, that it was nothing more than a channel of communication between the lakes Cawndilla and Minandechi and the Darling, as the Rufus and Hawker respectively connect Lakes Victoria and Bonney with the Murray, and I felt assured that as soon as we should leave the former river,

our difficulties as regards the supply of water for our cattle would commence, and that although we were going amongst hills of 1500 or 2000 feet elevation, we should still suffer from the want of that indispensable element. Many of my readers, judging from their knowledge of an English climate, and living perhaps under hills of less elevation than those I have mentioned, from which a rippling stream may pass their very door, will hardly understand this; but the mountains of south-east Australia bear no resemblance to the moss-covered mountains of Europe. There that spongy vegetation retains the water to give it out by degrees, but the rain that falls on the Australian hills runs off at once, and hence the terrific floods to which their creeks are subject. In the barren and stony ranges through which I had now to force my way, no spring was to be found. During heavy rains, indeed, the torrents are fierce, and the waters must spread over the plains into which they descend for many miles; but such effects disappear with their cause; a few detached pools only remain, that are fed for a time by under drainage, which soon failing, the thirsty sun completes his work, and leaves that proscribed region—a desert.

Fully satisfied then that the greatest obstacle to the progress of the Expedition would be the want of water, and that it would only be by long and laborious search that we should succeed in gaining the interior, I determined on taking as much as I could on my proposed journey, and with a view

to gaining more time for examining the country, I had a tank constructed, which I purposed to send a day or two in advance.

The little pond of which I have spoken at the head of the pass, had near it a beautiful clump of acacias of a species entirely new to us. It was a pretty graceful tree, and threw a deep shade on the ground; but with the exception of these and a few gum-trees the vicinity was clear and open. Our position in the creek on the contrary was close and confined. Heavy gusts of wind were constantly sweeping the valley, and filling the air with sand, and the flies were so numerous and troublesome that they were a preventative to all work. I determined, therefore, before Mr. Browne and I should start for the interior, to remove the camp to the upper part of the glen. On the 4th we struck our tents and again pitched them close to the acacias. Early on the morning of the 5th, I sent Flood with Lewis and Sullivan, having the cart full of water, to preserve a certain course until I should overtake them, being myself detained in camp with Mr. Browne, in consequence of the arrival of several natives from whom we hoped to glean some information; but in this we were disappointed. Toonda had continued with us as far as "Parnari;" but on our moving up higher into the hills, his heart failed him, and he returned to Cawndilla.

At eleven, Mr. Browne and I took leave of Mr. Poole, and pursuing a course of 140° to the west of south, rode on to overtake the cart. At about four

miles from the camp we crossed a small ironstone range, from which we saw Flood and his party nearly at the foot of the hill on which I had directed him to move, and at which I intended to cross the ranges if the place was favourable. In this, however, we were disappointed, for the hills were too rugged, although of no great breadth or height. We were consequently obliged to turn to the south, and in going over the rough uneven ground, had the misfortune to burst our tank. I therefore desired Lewis to stop, and gave the horses as much water as they would drink, still leaving a considerable quantity in the tank, of which I hoped we might yet avail ourselves. Although we had found it impracticable to cross the ranges at the proposed point, Mr. Browne and I had managed to scramble up the most elevated part of them. We appeared still to be amidst broken stony hills, from which there was no visible outlet. There was a line of gum-trees, however, in a valley to the south-west of us, as if growing on the side of a creek that would in such case be tributary to the main creek on which our tents were pitched, and we hoped, by running along the base of the hills to the south and turning into the valley, to force our way onwards. At about three and a half miles our anticipations were verified by our arriving opposite to an opening leading northwards into the hills. This proved to be the valley we had noticed. A line of gum-trees marked the course of a small creek, which passing behind a little hill at the entrance of the

valley, reappeared on the other side, and then trended to the N.W. Entering the valley and pursuing our way up it, at two miles we crossed another small creek, tributary to the first, and at a mile beyond halted for the night, without having found water. Although there was a little grass on the plains between the camp and the ranges, there was none in the valley in which we stopped. Low bushes of rhagodia and atriplex were alone to be seen, growing on a red, tenacious, yet somewhat sandy soil, whilst the ranges themselves were covered with low brush.

The water had almost all leaked out of the tank when we examined it, so that it was no longer of any service to us. On the morning of the 7th, therefore, I sent Lewis and Sullivan with the cart back to the camp, retaining Flood and Morgan to attend on Mr. Browne and myself.

When we started I directed them to follow up the creek, which did not appear to continue much further, and on arriving at the head of it to cross the range, where it was low, in the hope that they would strike the opposite fall of waters in descending on the other side, whilst I went with Mr. Browne to a hill from which I was anxious to take bearings, although Lewis, who had already been on the top of it, assured me that there was nothing new to be seen. However, we found the view to be extensive enough to enable us to judge better of the character of the country than from any other point on which we had yet been. It was tra-

versed by numerous rocky ridges, that extended both to the north and south beyond the range of vision. Many peaks shewed themselves in the distance, and I was enabled to connect this point with "Coonbaralba," the hill above the camp. The ridge I had directed Flood to cross was connected with this hill, and appeared to create a division of the waters thereabouts. All however to the north or north-west was as yet confused. There was no visible termination of the ranges in any direction, nor could we see any feature to guide us in our movements.

The rock formation of this hill was a fine grained granite, and was in appearance a round and prominent feature. Although its sides were covered with low dark brush, there was a considerable quantity of oat-grass in its deep and sheltered valleys. We soon struck on Flood's track after leaving this hill, which, as Lewis had been the first to ascend, I called "Lewis's Hill;" and riding up the valley along which the men had already passed, at six miles crossed the ridge, which (as we had been led to hope) proved to be the range dividing the eastern and western waters. On our descent from this ridge we proceeded to the north-west, but changed our course to north in following the cart tracks, and at four miles overtook Flood and Morgan on the banks of a creek, the channel of which, and the broad and better grassed valley through which it runs, we ourselves had several times crossed on our way down, and from the first had hoped to find it the main creek on the west side of the ranges.

At the point where we overtook Flood it had increased greatly in size, but we searched its hopeless bed in vain for water, and as it there turned too much to the eastward, for which reason Flood had stopped until we should come up, we left it and crossed the low part of a range to our left; but as we were going too much to the south-west, I turned shortly afterwards into a valley that led me more in the direction in which I was anxious to proceed. The country had been gradually improving from the time we crossed the little dividing range, not so much in soil as in appearance, and in the quality of its herbage. There was a good deal of grass in the valleys, and up the sides of the hills, which were clear and open on the slopes but stony on their summits. After proceeding about two and a half miles, we got into a scrubby part of the hills, through which we found it difficult to push our way, the scrub being eucalyptus dumosa, an unusual tree to find in those hills. After forcing through the scrub for about half a mile, we were suddenly stopped by a succession of precipitous sandstone gullies, and were turned to the eastward of north down a valley the fall of which was to that point. This valley led us to that in which we had rejoined Flood, but lower down; in crossing it we again struck on the creek we had then left, much increased in size, and with a row of gum-trees on either side of it, but its even broad bed composed of the cleanest gravel and sand, precluded the hope of our finding water. At about a mile, however, it entered a

narrow defile in the range, aud the hills closed rapidly in upon it. Pursuing our way down the defile it gradually narrowed, the bed of the creek occupied its whole breadth, and the rocks rose perpendicularly on either side. We searched this place for water with the utmost care and anxiety, and I was at length fortunate enough to discover a small clear basin not a yard in circumference, under a rock on the left side of the glen. Suspecting that this was supplied by surface drainage, we enlarged the pool, and obtained from it an abundance of the most delicious water we had tasted during our wanderings. Mr. Browne will I am sure bear the Rocky Glen in his most grateful remembrance. Relieved from further anxiety with regard to our animals, he hastened with me to ascend one of the hills that towered above us to the height of 600 feet, before the sun should set, but this was no trifling task, as the ascent was exceedingly steep. The view from the summit of this hill presented the same broken country to our scrutiny which I have before described, at every point excepting to the westward, in which direction the ranges appeared to cease at about six miles, and the distant horizon from S.W. to N.W. presented an unbroken level. The dark and deep ravine through which the creek ran was visible below us, and apparently broke through the ranges at about four miles to the W.N.W. but we could not see any water in its bed. It was sufficiently cheering to us however to know that we were near the termination of the ranges to the westward, and

that the country we should next traverse was of open appearance.

I had hoped from what we saw of it from the top of the hill above us, on the previous afternoon, that we should have had but little difficulty in following down the creek, but in this we were disappointed.

We started at eight to pursue our journey, and kept for some time in its bed. The rock formation near and at our camp was trap, but at about a mile below it changed to a coarse grey granite, huge blocks of which, traversed by quartz, were scattered about. The defile had opened out a little below where we had slept, but it soon again narrowed, and the hills closed in upon it nearer than before. The bed of the creek at the same time became rocky, and blocked up with immense fragments of granite. We passed two or three pools of water, one of which was of tolerable size, and near it there were the remains of a large encampment of natives. Near to it also there was a well, a sure sign that however deep the water-holes in the glen might now be, there are times when they are destitute of any. There can be no doubt, indeed, but that we owed our present supply of water both at this place and at the Coonbaralba pass, to the rains that fell in the hills during the week we remained at Williorara.

Soon after passing the native camp, our further progress was completely stopped by large blocks of granite, which, resting on each other, prevented the

possibility of making a passage for the cart or even of advancing on horseback. In this predicament I sent Flood to climb one of the hills to our left, to see if there was a leading spur by which we could descend to the plains; but on his return to us he said that the country was wholly impracticable, but that he thought we should see more of it from a hill he had noticed about three miles to the north-east. We accordingly left Morgan with the horses and walked to it. We reached the summit after a fatiguing walk of an hour, but neither were we repaid for our trouble, nor was there anything in the view to lead us to hope for any change for the better. The character of the country had completely changed, and in barrenness it far exceeded that through which we had already passed. The line of hills extended from S.E. by S. to the opposite point of the compass, and formed a steep wall to shut out the level country below them.

One might have imagined that an ocean washed their base, and I would that it really had been so, but a very different hue spread between them and the distant horizon than the deep blue of the sea. The nearer plains appeared of a lighter shade than the rest of the landscape, but there were patches of trees or shrubs upon them, which in the distance were blended together in universal scrub. A hill, which I had at first sight taken to be Mount Lyell of Sir Thomas Mitchell, bore 7° to the east of north, distant 18 miles, but as our observations placed

us in 31° 32′ 00″ S. only, it could not have been that hill. To the south and east our view was limited, as the distant horizon was hid from our sight by higher ground near us, but there was a confused succession of hills and valleys in those directions, the sides of both being covered with low brush and huge masses of granite, and a dark brown sombre hue pervaded the whole scene. We could not trace the windings of the creek, but thought we saw gum-trees in the plains below us, to the N.E., indicating the course of a creek over them. Some of the same trees were also visible to our left (looking westward), and the ranges appeared less precipitous and lower in the same direction. We cast our eyes therefore to that point to break through them, and returned to Morgan with at least the hope of success. In the view I had just then been contemplating, however, I saw all realized of what I had imagined of the interior, and felt assured that I had a work of extreme difficulty before me in the task of penetrating towards the centre.

On our return to the cart, I determined on again taking up my quarters at the little rocky water-hole, and sending Mr. Browne and Flood to the westward to find a practicable descent to the plains, before I again moved from the glen.

In the evening, Mr. Browne went with Flood down the creek, but the road was perfectly impracticable even for led horses, so that the only hope of progressing rested on the success that might attend

his endeavours on the following day. He accordingly started with Flood at an early hour, proposing to return by the way of the creek, if he should succeed in finding a descent to the plains. I and Morgan remained in the glen: My observations placed this well-remembered spot in lat. 31° 32′ 17″ S.

I had plenty of occupation during my officer's absence, whilst Morgan was engaged looking over the harness and filling up the water-casks. At four, Mr. Browne returned, having succeeded beyond our most sanguine expectations, not only in finding an uninterrupted descent to the plains, but an abundance of water in the creek at the gorge of the glen; yet he was of opinion that we should not find any water below that point, as the creek there had a broad and even bed of sand and gravel. He said that the aspect of the plains was better than he had expected to find them, and he distinctly saw from the ranges, as he descended, the hills of whose existence we had had some doubt the day before, bearing N.N.W. Thus, then, fortune once more befriended our movements, by enabling us to push on another day in advance, without being dependent on our own resources. Morgan was too glad to empty the casks again, and to lighten the cart-load, with which, on the morning of the 9th, we left the glen, and gradually turned to the westward, until the hill we had walked to on the 7th, and which bore west by north from the place where we had left Morgan with the cart, now

bore W.N.W. Pushing up a narrow valley, we found little difficulty in our way, and leaving the above hill somewhat to our right, we gradually descended by a long and leading spur to the Cis-Darling interior.

We could now look back on the ranges from the depressed region into which we had fallen, nor could the eye follow their outline and glance over the apparently boundless plain beyond them, without feeling a conviction that they had once looked over the waters of the ocean as they then overlooked a sea of scrub.

As soon as we had got well into the plains, we pursued a course of half a point to the eastward of north, nearly parallel to the ranges, until we reached the glen from which the creek issues, and formed our little camp on its banks. The water however was not good, so that we were obliged to send for some from a pool a little above us. In the bed of this creek we found beautiful specimens of Solani, and a few new plants.

I halted at this place in consequence of the resolution I had taken to push into the interior on the following morning. I was therefore anxious that the horses should start as fresh as possible, as we could not say where we should again find water.

The direction of the hills was nearly north and south, extending at either hand to a distance beyond the range of vision or telescope. Our observations here placed us in latitude 31° 23′ 20″ S.,

so that we were still nearly half a degree to the south of Mount Lyell, and a degree to the south of Mount Serle. I had little prospect of success, however, in pursuing a direct westerly course, as it would have led me into the visible scrub there; on the other hand I did not wish to move exactly parallel to the ranges, but, in endeavouring to gain a knowledge of the more remote interior, to keep such a course as would not take me too far from the hills in the event of my being obliged to fall back upon them. We started on the 11th, therefore, on a N.N.W. course, and on the bearing of the low hills we had seen to the westward, and which were now distinctly visible. For the first five miles we travelled over firm and open plains of clay and sand, similar to the soil of the plains of the Murray. At length the ground became covered with fragments of quartz rock, ironstone, and granite. It appeared as if M'Adam had emptied every stone he ever broke to be strewed over this metalled region. The edges of the stones were not, however, rounded by attrition, or mixed together, but laid on the plains in distinct patches, as if large masses of the different rocks had been placed at certain distances from each other and then shivered into pieces. The plains were in themselves of undulating surface, and appeared to extend to some low elevations on our left, connecting them with the main range as outer features; although in the distance they only shewed as a small and isolated line of hills detached about eleven miles

from the principal groups, from which we were gradually increasing our distance. This outer feature prevented our seeing the north-west horizon until we gained an elevated part of it, whence it appeared that we should soon have to descend to lower ground than that on which we had been travelling. There was a small eminence that just shewed itself above the horizon to the N.N.W., and was directly in our course, enabling us to keep up our bearings with the loftier and still visible peaks on the ranges. We found the lower ground much less stony and more even than the higher ground, and our horses got well over it. At 4 P.M. we observed a line of gum-trees before us, evidently marking the line of a creek, the upper branch of which we had already noticed as issuing from a deep recess in the range. At the distance we were from the hills, we had little hope of finding water; on approaching it, however, we alarmed some cockatoos and other birds, and observed the recent tracks of emus in the bed of the creek. Flood, who had ridden a-head, went up it in search for water. Mr. Browne and I went downwards, and from appearances had great hopes that at a particular spot we should succeed by digging, more especially as on scraping away a little of the surface gravel with our hands, there were sufficient indications to induce us to set Morgan to work with a spade, who in less than an hour dug a hole from which we were enabled to supply both our own

wants and those of our animals; and as there was good grass in the creek, we tethered them out in comfort. This discovery was the more fortunate, as Flood returned unsuccessful from his search.

The gum-trees on this creek were of considerable size; and many of the shrubs we had found in the creek, at the glen, were in beautiful flower in its broad and gravelly bed, along which the Clyanthus was running with its magnificent blossoms; a situation where I certainly did not expect to find that splendid creeper growing. It was exceedingly curious to observe the instinct which brought the smaller birds to our well. Even whilst Morgan was digging, and Mr. Browne and I sitting close to him, some Diamond birds (Amandina) were bold enough to perch on his spade; we had, in the course of the day, whilst passing over the little stony range, been attracted to a low Banksia, by seeing a number of nests of these little birds in its branches, and of which there were no less than fourteen. In some of them were eggs, and in others young birds; so that it appeared they lived in communities, or congregated together to breed. But we had numberless opportunities of observing the habits of this interesting little bird, whose note cheered us for months, and was ever the forerunner of good, as indicating the existence of water.

We placed the cart under a gum-tree, in which the cockatoos we had alarmed when descending into the creek had a nest. These noisy birds (*Plyctolophus*

Leadbeaterii) kept incessantly screeching to their young, which answered them in notes that resembled the croaking of frogs, more than anything else.

On the 11th we left the creek, well satisfied with our night's occupation of it, as also, I believe, to the still greater satisfaction of our noisy friends. For about two and a half or three miles there was every appearance of an improving country It was open, and in many places well covered with grass; and although at three miles it fell off a little, still the aspect on the northern side of the creek was, to a considerable distance, preferable to that on the south side. At 11 A.M. we gained the crest of the little stony hill we had seen the day before to the N.N.W., and from it were enabled not only to take back bearings, but to carry others forward. We were fast losing sight of the hills, whose loftier summits alone were visible, yet we now saw fresh peaks to the north, which satisfied me that they continued in that direction far beyond the most distant one we had seen. From this circumstance I was led to hope that we might fall on another creek, and so gradually, but surely, work our way to the N. W.

On descending from the little hill, however, we traversed an inferior country, and at two miles saw a few scattered Pine-trees. Shortly afterwards, on breaking through a low scrub, we crossed a ridge of sand, on which numerous Pine-trees were growing. These ridges then occurred in rapid succession,

separated by narrow flats only; the soil being of a bright red clay covered with Rhagodiæ, and having bare patches on them. The draught over this kind of country became a serious hindrance to our movements, as it was very heavy, and the day excessively hot, the horses in the team suffered much. I therefore desired Morgan to halt, and, with Mr. Browne, rode forward in the hope of finding water, for he had shot a new and beautiful pigeon, on the bill of which some moist clay was adhering; wherefore we concluded that he had just been drinking at some shallow, but still unexhausted, puddle of water near us: we were, however unsuccessful in our search; but crossed pine ridge after pine ridge, until at length I thought it better to turn back to the cart, and, as we had already travelled some 25 miles, to halt until the morning; more especially as there was no deficiency of grass on the sand ridges, and I did not apprehend that our horses would suffer much from the want of water.

Whatever idea I might have had of the character of the country into which we had penetrated, I certainly was not prepared for any so singular as that we encountered. The sand ridges, some partially, some thickly, covered with Pine-trees, were from thirty to fifty feet high, and about eighty yards at their base, running nearly longitudinally from north to south. They were generally well covered with grass, which appeared to have been

the produce of recent rains; and several very beautiful leguminous plants were also growing on them. I did not imagine that these ridges would continue much longer, and I therefore determined, the following morning to push on. Our position was in lat. 30° 40′ S. and in longitude 140° 51′ E. nearly.

On the morning of the 12th we commenced our day's journey on a N.W. course, as I had proposed to Mr. Browne. Flood had been about half a mile to the eastward, in the hope of finding water before we rose, but was disappointed; the horses did not, however, appear to have suffered from the want of it during the night. On starting I requested Mr. Browne to make a circuit to the N.E. for the same purpose, as we had observed many birds fly past us in that direction; and I sent Flood to the westward, but both returned unsuccessful. Nevertheless, although we could not find any water, the country improved.

The soil was still clay and sand, but we crossed some very fine flats, and only wanted water to enjoy comparative luxury. Both the flats and the ridges were well clothed with grass, and the former had box-trees and hakeas scattered over them; but these favourable indications soon ceased. The pine ridges closed upon each other once more, and the flats became covered with salsolaceous plants. The day was exceedingly hot, and still more oppressive in the brushes, so that the horses began to

flag. At 2 P.M. no favourable change had taken place. Our view was limited to the succeeding sand hill; nor, by ascending the highest trees, could we see any elevated land at that hour; therefore I stopped, as the cart got on so slowly, and as the horses would now, under any circumstances, be three days without water, I determined on retracing my steps to the creek in which we had dug the well. I directed Mr. Browne, with Flood, however, to push on, till sunset, in the hope that he might see a change. At sunset I commenced my retreat, feeling satisfied that I had no hope of success in finding water so far from the hills. Turning back at so late an hour in the afternoon, it was past midnight when we reached the sand ridge from which we had started in the morning; where we again stopped until dawn, when proceeding onwards, and passing a shallow puddle of surface water, that was so thick with mud and animalculæ as to be unfit to drink, we gained the creek at half-past 4 P.M. Mr. Browne and Flood joined us some little time after sunset, having ridden about 18 miles beyond the point at which we had parted, but had not noticed any change. The sandy ridges, Mr. Browne informed me, continued as far as he went; and, to all appearance, for miles beyond. The day we returned to the creek was one of most overpowering heat, the thermometer at noon being 117° in the shade. I had promised to wait for Mr. Browne at the shallow puddle, but the sun's

rays fell with such intense effect on so exposed a spot that I was obliged to seek shelter at the creek. It blew furiously during the night of the 13th, in heated gusts from the north-east, and on the morning of the 14th the gale continued with unabated violence, and eventually became a hot wind. We were, therefore, unable to stir. The flies being in such myriads around us, so that we could do nothing. It is, indeed, impossible for me to describe the intolerable plague they were during the whole of that day from early dawn to sunset.

On the night of the 14th it rained a little. About 3 A.M. the wind blew round to the north-west, and at dawn we had a smart shower which cooled the air, reducing the temperature to something bearable. The sun rose amidst heavy clouds, by which his fiery beams were intercepted in their passage to the earth's surface. Before we quitted our ground I sent Flood up the creek, to trace it into the hills, an intention I was myself obliged to forego, being anxious to remain with the cart. The distance between the two creeks is about 26 miles, but, as I have already described the intervening country, it may not be necessary to notice it further. I was unable to take many back bearings, as the higher portions of the ranges were enveloped in mist. We reached the glen at half-past 5 P.M., and took up our old berth just at the gorge, preparatory to ascending the hills on the following day. Flood had already arrived there, and in-

formed me that he had not followed the creek to where it issued from the ranges, but had approached very nearly, and could see the point from which it broke through them. That he had not found any surface water, but had tried the ground in many places, and always found water at two or three inches depth, and that where the water was the most abundant the feed was also the most plentiful.

As I had anticipated, we had heavy rain all night, and in the morning continual flying thunder-storms. We started, however, at eight, and, leaving the cart to push on for the rocky gully, Mr. Browne and I proceeded to ascend some of the higher peaks, which we had not had time to do in our advance. We accordingly turned into a narrow valley, in the middle of which was the bed of a rocky water-course, and on either side of it were large clusters of the Clematis in full flower, that, mixed with low bushes of Jasmine, sent forth a most delicious perfume. After winding up this valley for about a mile and a half, we were stopped by a wall of rock right across it, and obliged to turn back. We were, however, more fortunate in our next attempt, and succeeded in gaining the summit of one of the loftiest hills on the range, on the very top of which we found large boulders of rocks, imbedded in the soil. They varied in size, from a foot in diameter to less, and were rounded by attrition, just like the rounded stones in the bed of a river,

or on the sea shore. The hill itself was of schistose formation, the boulders of different kinds of rocks, and very sparingly scattered through the soil. We had scarcely reached the summit of this hill, when it was enveloped in thick clouds, from which the lightning flashed, and the thunder pealed close to us, and crack after crack reverberated along the valleys. It soon passed away, however, and left us well drenched, but the western horizon was still black with clouds. From this hill we proceeded to another, which at first sight I had thought was of volcanic origin, but proved to be like the first, of schistose formation, and was covered with low scrub. About 2 P.M. we had finished our work, and the sun shone out. On looking back towards the plains we now saw them flashing in the light of waters, and I regretted that we had been forced to retreat before the rains set in. However, seeing that the country was now in a fitter state to travel over, I determined on returning with all speed, to give Mr. Poole an opportunity to pass to the point where I had been, whilst I should move the party over the hills. We struck across the ranges, direct for the rocky gully, from the last hill we ascended, and rode past some very romantic scenery, but I had not time to make any sketch of it. Flood and Morgan had already arrived in the glen, and tethered out the horses in some long grass. At this place we were about 38 miles distant from the camp; but, as the cart could not travel so far in one day, I directed the men

to bring it up, and on the morning of the 18th left them for the camp, with Mr. Browne, where we arrived at sunset. But little rain had fallen during the day, still it was easy to foretell that it had not ceased. The wind, for the last three days, had been blowing from the N.W., but on the 19th flew round to the S.E., and although no rain fell during the day, heavy clouds surrounded us. Considering, however, the rapidity of evaporation in such a climate, and the certainty that the rains would be followed by extreme heat, I was anxious that Mr. Poole should proceed on his journey without delay, he accordingly prepared to leave us on the 20th.

The reader will have inferred, from what I have said on the subject, that my object at this particular time was to attain the meridian of Mount Arden, as soon as circumstances should enable me. Had not this intention influenced me, on my recent journey, I should have kept nearer to the ranges; but I hoped, by taking a westerly course, that I should strike the N.E. angle of Lake Torrens, or find that I had altogether cleared it; added to this Mr. Eyre had informed me that he could not see the northern shore of that lake; I therefore thought that it might be connected with some more central body of water, the early discovery of which, in my progress to the N.W., would facilitate my future operations. This was a point whereon I was most anxious to obtain information; but, as my horses were knocked

up, it appeared to me, that Mr. Poole, with fresh horses, would find no difficulty in gaining a distance sufficiently great to enable me to act on the knowledge he might acquire of the distant interior.

In my instructions to that officer therefore, I directed him to pursue a general N.W. course, as the one most likely to determine the questions on the several points to which I called his attention. "Should you," I said, "reach the shores of Lake Torrens, or any body of water of unknown extent, you will endeavour to gain every information on that head; but if you should not strike any basin of either description, you will do your uttermost to ascertain if a westerly course is open to us, after you shall have reached lat. 30° to enable me to gain the 138° meridian, as soon as circumstances will permit. Should the supply of water which the recent rains will ensure for a time, be likely to fail, or if the rains should not have extended so far as you would desire to go, and your advance be thus rendered hazardous, it will be discretionary with you to return direct to the camp, or turn to the eastward, and proceed along the western flanks of the ranges, but you are on no account to endanger either yourself or party by an attempt to push into the interior, to a distance beyond that which prudence might reasonably justify. Should you return along the ranges you will examine any creek or water-course you may intersect, and bring me the fullest information as to the supply of water and

feed. Should you, on the other hand, discover any very extensive sheet of water, you will, after ascertaining its extent and direction, as far as your means will allow, return immediately to the camp; as, in the event of our requiring the boat, many necessary preparations will have to be made, that will take a considerable length of time to complete, during which the examination of the country to the north can be carried on with advantage.

"You will select the men you would wish to accompany you, and will provide as well for your comfort as safety; for although these regions do not seem to be inhabited at the present moment, at least in that part from whence I have just returned, it will be necessary for you to be always on your guard, even although no apparent danger may be near."

Mr. Browne had greatly recovered from his late indisposition, and as Mr. Poole intimated to me that he had expressed his willingness to accompany him, I had several reasons for giving my assent to this arrangement.

On the morning of the 20th it still continued to rain, insomuch that I was anxious Mr. Poole should postpone his departure, but clearing up at noon, he left me and proceeded on his journey. In the evening, however, we had heavy and violent showers; all night it poured in torrents with thunder and lightning, but the morning of the 21st was clear and fine. A vast quantity of rain however had fallen.

The creek was overflowing its banks, and the ground in such a state that it would have been impossible to have moved the drays. The temperature was exceedingly cold, although the thermometer did not fall below 66° at half-past 2 P.M. the hottest part of the day. Such a temperature I am aware would be considered agreeable in England, but in a climate like that of Australia, where the changes are so sudden, they are more severely felt. Only a few days before the thermometer had ranged from 108° to 117° in the shade, thus at once causing a difference of 42° and 51°, and I am free to say that it was by no means agreeable. On the 22nd I commenced my advance over the ranges, although the ground was hardly then in a condition to bear the weight of the drays. We were indeed obliged to keep on the banks of the creek as they were higher and firmer than the plains, but after all we only made seven miles and halted, I had almost said without water, for notwithstanding the recent rains, there was not a drop in the bed of the creek, nor could we get any other than a scanty supply by digging; Jones, however, one of the bullock drivers, found a shallow pool upon the plains to which the cattle were driven.

On the way I ascended a small hill composed of mica slate, and on its summit found two or three specimens of tourmaline. The boiling point of water on this hill was 210°, the thermometer stood at 70°.

On the 25th we crossed the little dividing range

connected with Lewis's Hill, which last I again ascended to verify my bearings, as we had erected three pyramids on the Coonbaralla range that were visible from it. I also availed myself of the slow progress of the drays, to ascend a hill at some little distance from our line, which was considerably higher than any of those near it, and was amply rewarded for my trouble by the extensive view it afforded.

Our specimens and collections were at this period exceedingly limited, nor did there appear to be any immediate chance of increasing them. The most numerous of the feathered race were the owls, (Strix flameus.) These birds flew about in broad daylight, and kept the camp awake all night by their screeching, it being at that time the breeding season. The young birds generally sat on a branch near the hole in which they had been hatched, and set up a most discordant noise about every quarter of an hour, when the old ones returned to them with food.

On trying the thermometers, one on Lewis's Hill, and the other on the Black Hill, I found that they boiled at 209° and 208° respectively.

On the 26th Jones was unfortunate enough to snap the pole of his dray, and I was consequently detained on the 27th repairing it. I was the more vexed at the accident, being anxious to push over the ranges and gain the plains, in order to prevent Mr. Poole the necessity of re-ascending them. I felt satisfied that I should find a sufficiency both

of water and feed at the gorge of the Rocky Glen, to enable me to rest until more thorough knowledge of the country could be gained, whilst by encamping at that place I should save Mr. Poole a journey of 63 miles.

Lower part of the Rocky Glen.

As we descended from the ranges I observed that all the water I had seen glittering on the plains had disappeared; I found too that the larger water-hole in the glen had rather fallen than increased during the rains. The fact however was, that the under-drainage had not yet reached the lower part of the gully.

We were now about 24 miles from the second creek Mr. Browne and I had crossed on our recent excursion, and from Flood's examination of it afterwards,

I felt assured that unless a party was sent forward to dig a large hole for the cattle I could not prudently advance any farther for the present; but being anxious to push on, and hoping that the late rains had increased the supply of water in the creek, I sent Flood on the 28th with two of the men (Joseph and Sullivan) to dig a tank in the most favourable spot he could select, and followed him with the drays on the 29th. Wishing however to examine the country a little to the westward, I desired the men to keep on the plains about two miles from the foot of the ranges, until they should strike the creek or Flood should join them, and did not reach the encampment before eight o'clock.

Flood then told me that he had been to the place where he had before found most surface water; but that, notwithstanding the rains, it was all gone. He had tried the creek downwards, and had at length sunk a tank opposite to a little gully, thinking that it might influence the drainage. The tank was quite full, and continued so for two or three days after, when, without any great call upon it from the cattle, it sensibly diminished, and at length dried up, and we should have been obliged to fall back, if in tracing up the little gully we had not found a pond that enabled us to keep our ground. It often happened that we thus procured water in detached localities when there was not a drop in the main channels of the creeks. At this place the boiling point of the

thermometer was 212°; thus bringing us again pretty nearly on a level with the ocean, although we were at the time distant from it more than 480 miles.

At this period we had frequent heavy winds, with a heated temperature: yet our animals, if I except the dogs, did not suffer much. The sheep, it is true, would sometimes refuse to stir, and assemble in the shade, when on the march, whilst the dogs took shelter in wambut holes, and poking their heads out, would bark at their charge to very little purpose. It was evident, indeed, that the heat was fast increasing, and what we had already experienced was only an earnest of that which was to follow.

Mr. Poole had now been absent thirteen days, and I began to be anxious for his return. Our march to the second creek had again shortened his homeward journey 70 miles, and as I felt assured he would cross the creek at the point where we had dug the well, I stuck a pole up in it, with instructions, and on the 2nd December he rode into the camp with Mr. Browne, both much fatigued, as well as their horses. I had been engaged the greater part of the day fixing the points for another base line, as I was fearful that the angles of our first were too acute, and found that the party had got back on my return to the camp.

Mr. Poole informed me that as soon as the weather cleared, after leaving me on the range, he had pushed on. That on the 24th he left my cart tracks as they turned to the N.W., and continued the N.N.W. course as I had directed. On that day he

encamped early at a good water-hole, as the horses had travelled fast; the country thereabouts had become more open, but water was exceedingly scarce. On this day he ascended a small sandstone hill, from which some high peaks on the range bore S.S.E.

On the 26th he had not advanced 10 miles, when the pack-horse fell exhausted by heat. Mr. Poole then consulted with Mr. Browne, and it was thought better by both to travel at night, and they accordingly did so. The country by moonlight appeared more open, and the water seemed to be in greater abundance, as if much more rain had fallen thereabouts than to the south. They continued a N.N.W. course until daylight, when they halted, and Mr. Browne ascended a sand hill, from whence he saw peaks on the range bearing to the north of east, and the Mount Serle range, bearing due west, distant 50 miles. The latter circumstance induced Mr. Poole, when he again resumed his journey, to change his course to west, in the hope that as he had passed the 30th parallel he should find Lake Torrens between himself and the ranges. Accordingly, on starting at 4 P.M. they went on that course, and halted at dawn on a swampy flat, under a gum-tree. Mr. Poole subsequently ascertained that the swamp was the head of a little creek falling into the Sandy Lake, where he afterwards terminated his journey.

The country had now assumed a very barren appearance. At sunrise Mr. Poole and Mr. Browne ascended another sand hill, from whence they again

saw the hills to the westward, seemingly very high and steep; but there was no sign of an intermediate basin, the country towards the ranges bearing a most sterile aspect. Here Mr. Browne saw a new pigeon, which had a very singular flight.

On the afternoon of the 28th the party moved on a course of 10° to the south of west, down a leading valley, the country becoming still more barren, the sand ridges quite bare, and only an occasional hakea on the flats. At eight miles on the above course, and from the top of a sandy ridge at the distance of two miles, they saw a sheet of water about a mile and a half in length, in a sandy bed extending to the north, without any visible termination. There was another sheet of water to the south of this in the same kind of bed, connected with the larger one by a dry channel. It appeared from the lay of the country that these sheets of water were formed by drainage from the barren ranges from which Mr. Poole calculated he was 15 to 18 miles distant. The lakes were about three miles in length, taking the two together, the water was slightly brackish, and in Mr. Poole's opinion they might during the summer season be dry. He again ascended the sandy ridge and observed that he was immediately opposite to three remarkable peaks, similar to those marked down by Mr. Eyre. The party then turned homewards, and encamped on the creek at the head of which they had slept the night before, where they could

hardly rest for the swarms of mosquitos. Pursuing their journey towards the camp on the following morning, keeping some few miles to the westward of their former line, they passed through a similar country. At noon, on the 1st of December, they were still amongst the pine ridges; after noon the country began to improve, and they rode across large plains well grassed and covered with acacia trees of fine growth, but totally destitute of water; they were in consequence obliged to tether the horses all night. They reached the creek in which I had erected the pole, early on the following morning, and there found the paper of instructions informing them of the removal of the camp to within a mile of where they then were.

It was evident from the result of this excursion, and from the high northerly point Mr. Poole had gained, that he had either struck the lower part of the basin of Lake Torrens or some similar feature. It was at the same time, however, clear that the country was not favourable for any attempt to penetrate, since there was no surface water. I felt indeed that it would be imprudent to venture with heavily loaded drays into such a country; but although I found a westerly course as yet closed upon me, I still hoped that we should find larger waters in the north-west interior, from the fact of the immense number of bitterns, cranes, and other aquatic birds, the party flushed in the neighbourhood of the lakes. Whence could these birds

(more numerous at this point than we ever afterwards saw them) have come from? To what quarter do they go? They do not frequent the Murray or the Darling in such numbers, neither do they frequent the southern portion of the coast. If then they are not to be found in those localities, what waters do they inhabit in the interior?

On the 4th I sent Flood to the north in search of water, directing him to keep at a certain distance from the ranges, with especial instructions not to proceed beyond 60 or 70 miles, but in the event of his finding water within that distance to return immediately to the camp. During his absence I was abundantly occupied, and anxious that Mr. Poole and Mr. Browne should have a little rest after their late journey. Both those gentlemen were however too interested in the service in which they were engaged to remain idle when they could be usefully employed. Mr. Poole went out with me on the 5th and 6th to assist in the measurement of the new base line I had deemed it prudent to run, for the purpose, as I have said, of correcting any previous error. Mr. Piesse examined the pork, and according to my instructions made out a list of the stores on hand, when I found it necessary to make a reduction in the allowance of tea and sugar, in consequence of the loss of weight. The former from 4 oz. to 3 oz. per week, the latter from 2 lb. to 1½ lb.

The heat had now become excessive, the thermometer seldom falling under 96°, and rising to 112°.

and 125° in the shade. The surface of the ground never cooled, and it was with difficulty that we retained any stones in our hands that had been exposed to the sun; still we had not as yet experienced a hot wind. The existing heat was caused by its radiation from the earth's surface and the intensity of the solar rays.

The horses Mr. Poole had out with him, had suffered a good deal, and considering that if the country should continue as heretofore, and we should be obliged to hunt incessantly for water, we should require relays, I thought it advisable to do away with the horse-team, as the consumption of provisions now enabled me to divide the load the horses had drawn equally amongst the bullocks. We finished the base line on the 7th, and I was glad to find that it was of sufficient length to ensure a favourable result, it being rather more than 10 miles.

All drainage in the creek had now ceased, and we were therefore dependent on the water in the gully, which, although invaluable as a present supply, would soon have been exhausted, where our total consumption could not have been less than from 1000 to 1100 gallons a day, for the horses and bullocks drank a fearful quantity. Had Flood been unsuccessful in the object of his journey, therefore, I should in the course of a few days have been obliged to fall back, but he returned on the 7th, bringing news that he had found a beautiful little creek, in which there were long deep water-holes

shaded by gum-trees, with an abundance of grass in its neighbourhood. This creek he said was about 40 miles in advance, but there was no water between us and it. He also confirmed an impression I had had on my mind from our first crossing the Barrier Range, that it would not continue to any great distance northwards; Flood said that from what he could observe the hills appeared to be gradually declining, as if they would soon terminate. He saw three native women at the creek, but did not approach them, thinking it better not to excite their alarm. These were the first natives we had seen on the western side of the hills.

On the 9th we again moved forward, on a course a little to the eastward of north, over the barren, stony, and undulating ground that lies between the main and outer ranges. The discovery of this creek by Flood, so much finer than any we had hitherto crossed, led me to hope that if the mountains should cease I might fall in with other ranges beyond them coming from the north-east, as forming the north-west slope of the valley of the Darling. I was anxious, therefore, to examine the ranges as we advanced, and leaving the party in Mr. Poole's charge, rode away to ascend some of the hills and to take bearings from them to some particular peaks, the bearing of which had already been taken from different elevations; but from no hill to which I went could a view of the south-west

horizon be obtained, so much lower had the hills become, and from their general aspect I was fully satisfied that we should soon arrive at their termination. From the last point I ascended, as from others, there was a large mountain bearing N.E. by N. from me, distant 50 or 60 miles, which I rightly judged to be Mount Lyell. It was a bold, round hill, without any particular feature, but evidently the loftiest connected with the Barrier Range. Mount Babbage bore N. by E. and was only just visible above the dark scrubs between me and it. The teams were keeping rather nearer the hills than Flood had gone, and were moving directly for a line of trees apparently marking the course of a creek. On my way to overtake the party, I met Mr. Browne and Flood on the plains, with whom I rode back. As we crossed these plains we flushed numerous pigeons—a pair, indeed, from under almost every bush of rhagodia that we passed. This bird was similar to one Mr. Browne had shot in the pine forest, and this was clearly the breeding season; there were no young birds, and in most of the nests only one egg. We should not, however, have encumbered ourselves with any of the young at that time, but looked to a later period for the chance of being able to take some of that beautiful description of pigeon home with us. The old birds rose like grouse, and would afford splendid shooting if found in such a situation at any other period than

that of incubation; at other times however, as I shall have to inform the reader, they congregate in vast flocks, and are migratory.

Fortunately, at that part of the creek where the party struck it, there was a small pool of water, at which we gladly halted for the night, having travelled about 28 miles; our journey to Flood's Creek on the following day was comparatively short. Flood had not at all exaggerated his account of this creek, which, as an encouragement, I named after him. It was certainly a most desirable spot to us at that time; with plenty of water, it had an abundance of feed along its banks; but our tents were pitched on the rough stony ground flanking it, under cover of some small rocky hills. To the north-west there was a very pretty detached range, and westward large flooded flats, through which the creek runs, and where there was also an abundance of feed for the stock.

Although, as I have observed, the heat was now very great, the cereal grasses had not yet ripened their seed, and several kinds had not even developed the flower. Everything in the neighbourhood of the creek looked fresh, vigorous, and green, and on its banks (not, I would observe, on the plains, because on them there was a grass peculiar to such localities) the animals were up to their knees in luxuriant vegetation. We there found a native wheat, a beautiful oat, and a rye, as well as a variety of grasses; and in hollows on the plains a blue or

purple vetch not unusual on the sand ridges, of which the cattle were very fond. In crossing the stony plains to this creek we picked up a number of round balls, of all sizes, from that of a marble to that of a cannon ball; they were perfect spheres, and hollow like shells, being formed of clay and sand cemented by oxide of iron. Some of these singular balls were in clusters like grape-shot, others had rings round them like Saturn's ring; and as I have observed, the plains were covered with them in places. There can be no doubt, I think, but that they were formed by the action of water, and that constant rolling, when they were in a softer state, gave them their present form.

The day succeeding that of our arrival at Flood's Creek was one of tremendous heat; but in the afternoon the wind flew round to the S.W. from the opposite point of the compass, and it became cooler. On the 11th, I detached Mr. Poole and Mr. Browne, with a fortnight's provisions, to the N.E. in search of water. It may appear that I had given these officers but a short respite from their late labours; but the truth is that a camp life is a monotonous one, and both enjoyed such excursions, and when there was no necessity for other arrangements, as they evinced a great interest in the expedition, I was glad to contribute to their pleasures, and should have rejoiced if it had fallen to their lot to make any new and important discovery.

My instructions to Mr. Poole on these occasions

were general. To keep a course somewhat to the eastward of north, but to be guided by circumstances. I thought it better to give him that discretionary power, since I could not know what changes might take place in the country.

I sent Flood at the same time to ride along the base of the ranges; but desired him not to be absent more than three or four days, as I myself contemplated an excursion to the eastward, to examine the country on that side as I passed up it.

The reader will observe, that although slowly, we were gradually, and, I think, steadily working our way into the interior. At that time I hoped with God's blessing we should have raised the veil that had so long hung over it, more effectually than we did. Up to that period we had been exceedingly fortunate; nothing had occurred to disturb the tranquillity of our proceedings; no natives to interrupt our movements; no want either of water or grass for our cattle, however scarce the parties scouring the country might have found it; no neglect on the part of the men, and a consequent efficient state of the whole party. But time brings round events to produce a change in all things; the book of fate being closed to our inspection, it is only from the past that we discover what its pages before concealed from us.

CHAPTER V.

NATIVE WOMEN—SUDDEN SQUALL—JOURNEY TO THE EASTWARD—VIEW FROM MOUNT LYELL—INCREASED TEMPERATURE—MR. POOLE'S RETURN—HIS REPORT—LEAVE FLOOD'S CREEK—ENTANGLED IN THE PINE FOREST—DRIVE THE CATTLE TO WATER—EXTRICATE THE PARTY—STATE OF THE MEN—MR. POOLE AND MR. BROWNE LEAVE THE CAMP—PROCEED NORTHWARDS—CAPT. STURT LEAVES FOR THE NORTH—RAPID DISAPPEARANCE OF WATER—MUDDY CREEK—GEOLOGICAL FORMATION—GYPSUM—PUSH ON TO THE RANGES—RETURN TO THE CREEK—AGAIN ASCEND THE RANGES—FIND WATER BEYOND THEM—PROCEED TO THE W.N.W.—RETURN TO THE RANGES—ANTS AND FLIES—TURN TO THE EASTWARD—NO WATER—RETURN TO THE CAMP—MR. POOLE FINDS WATER—MACK'S ADVENTURE WITH THE NATIVES—MOVE THE CAMP.

I WAS much surprised that the country was not better inhabited than it appeared to be; for however unfit for civilized man, it seemed a most desirable one for the savage, for there was no want of game of the larger kind, as emus and kangaroos, whilst in every tree and bush there was a nest of some kind or other, and a variety of vegetable productions of which these rude people are fond. Yet we saw not more than six or seven natives during our stay in the neighbourhood of Flood's Creek.

One morning some of the men had been to the eastward after the cattle, and on their return informed me that they had seen four natives at a distance. On

hearing this I ordered my horse to be saddled, with the intention of going after them; but just at that moment Tampawang called out that there were three blacks crossing from the flats, to the eastward, I therefore told him to follow me, and started after them on foot. The ground was very stony, so that the poor creatures, though dreadfully alarmed, could not get over it, and we rapidly gained upon them. At last, seeing there was no escape, one of them stopped, who proved to be an old woman with two younger companions. I explained to her when she got calm, for at first she was greatly frightened, that my camp was on the creek, and I wanted the blackfellows to come and see me; and taking Tampawang's knife, which hung by a string round his neck, I shewed the old lady the use of it, and putting the string over her head, patted her on the back and allowed her to depart. To my surprise, in about an hour and a half after, seven natives were seen approaching the camp, with the slowness of a funeral procession. They kept their eyes on the ground, and appeared as if marching to execution. However, I made them sit under a tree; a group of seven of the most miserable human beings I ever saw. Poor emaciated creatures all of them, who no doubt thought the mandate they had received to visit the camp was from a superior being, and had obeyed it in fear and trembling. I made them sit down, gave them a good breakfast and some presents, but could obtain no information from

them; when at length they slunk off and we never saw anything more of them. The men were circumcised, but not disfigured by the loss of the front teeth, perfectly naked, rather low in stature, and anything but good looking.

On the 12th, about midnight, we had a violent squall that at once levelled every tent in the camp to the ground. It lasted for about half an hour with terrific fury, but gradually subsided as the cloud from behind which it burst passed over us. A few drops of rain then fell and cooled the air, when I called all hands to replace the tents. I was up writing at the time, and of a sudden found myself sitting without anything above me save the blue vault of heaven. My papers, etc. were carried away, and the men could scarcely hear one another, so furiously did the wind howl in the trees.

On the 13th I left the camp in charge of Mr. Piesse my store-keeper, and with Mr. Stuart and Flood crossed the ranges to the eastward, intending to examine the country between us and the Darling. Immediately on the other side of the range there was a plain of great width, and beyond, at a distance of between 50 and 60 miles, was a range of hills running parallel to those near the camp. They terminated however at a bold hill, bearing E.N.E. from me, it was evidently of great height; beyond this hill there was another still higher to the north-east, which I believe was Mount Lyell. The first portions of the plain were open, and

we could trace several creeks winding along them, but the distant parts were apparently covered with dense and black scrub. Descending to the eastward towards the plains we rode down a little valley, in which we found a small pool of water; at this we stopped for a short time, but as the valley turned too much to the north I left it, and pursuing an easterly course over the plains halted at seven miles, and slept upon them, under some low bushes. The early part of the day had been warm, with the wind at N.E., but in the evening it changed to the south, and the night was bitterly cold. On the morning of the 14th we were obliged to wrap ourselves up as well as we could, the wind still blowing keenly from the south. We travelled for more than five miles over grassy plains, and crossed the dry beds of several lagoons, in which not very long before there might have been water. At nine miles we entered a dense brush of pine-trees, acacia and other shrubs growing on pure sand. Through this we rode for more than 15 miles, to the great labour of our animals, as the soil was loose, and we had constantly to turn suddenly to avoid the matted and fallen timber. In this forest the temperature was quite different from that on the plains, and as we advanced it became perfectly oppressive. At about 15 miles we ascended a small clear sandy knoll, from whence we had a full view of Mount Lyell. I had expected that we should have found some creek near it, but the moment my eye fell on that naked and desolate mountain

my hopes vanished. We had now approached it within five miles, and could discover its barren character. Although of great height (2000 feet), there did not appear to be a blade of vegetation, excepting on the summit, where there were a few casuarinæ, but the pines grew high up in its rugged ravines, and the brush continued even to its base. I still however hoped that from the top we should see some creek or other, but in this expectation we were also disappointed. The same kind of dark and gloomy brush extended for miles all round, nor could we either with the eye or the telescope discover any change. Again to the eastward there were distant ranges, but no prominent hill or mountain to be seen. One dense forest lay between us and them, within which I could not hope to find water, and as we had been without from the time we left the little creek in the ranges near the camp, I determined on retracing my steps, my object in this journey having been fully gratified by the results. The country through which we had passed was barren enough, but that towards the Darling was still worse. I should, however, have pushed on to Mount Babbage, which loomed large and bore a little to the eastward of north; but I did not see that I should gain anything by prolonging my journey. We were now about 56 miles from the camp, and there was little likelihood of our finding any water on our way back; when we descended from the hill, therefore, I pressed into

the pine forest, as far as I could, and then halted. On the following morning we crossed the plains more to the north than we had before done. About 11 A.M. we struck a creek, and startled a native dog in its bed which ran along the bank. In following this animal we stumbled on a pool of water, and stopped to breakfast. Wishing to examine the country there as far to the north as possible on my way back, I passed over the northern extremity of the ranges. They there appeared gradually to terminate, and a broad belt of pine scrub from the westward stretched across the country, below me, to the east, until it joined the forest, through a lower part of which we had penetrated to Mount Lyell; but beyond this scrub nothing was to be seen. On my return to the camp I examined the drays, and found that the hot weather had had a tremendous effect on the wheels; the felloes had shrunk greatly, and the tyres of all were loose. I therefore had them wedged and put into serviceable condition.

The heat at this period was every day increasing, and it blew violently from whatever point of the compass the wind came.

On the 17th I examined the stock, and was glad to find they were all in good condition, the horses fast recovering from their late fatigues, the cattle in excellent order, and the sheep really fat.

Mr. Stuart was generally employed over the chart, which now embraced more than 80 miles of a hilly country, and I was happy to find that our angles agreed.

As I have already observed, there were a great variety of the cereal grasses about Flood's Creek, but they merely occupied a small belt on either side of it. All the grasses were exceedingly green, and there was a surprising appearance of verdure along the creek. Beyond it, on both sides, were barren stony plains, on which salsolaceous plants alone grew. About 13 miles to the westward the pine ridges commenced, and between us and these were large flats of grassy land, over which the waters of the creek spread in times of flood.

The white owl here appeared, like other birds, at noon-day; but there were also numerous other night birds. Here too the black-shouldered hawk collected in flights of thirty or forty constantly on the wing, but we never saw them take any prey; nor, (although we invariably examined their gizzards,) could we discover upon what they lived.

Our lunars placed us in long. 141° 18′ 2″ E. and lat. 30° 49′ 29″ S. Up to this point we had traversed nothing but a desert, which, as far as our examinations had extended, was worse on either side than the line on which we were moving; how much further that gloomy region extended, or rather how far we were destined to wander into it, was then a mystery.

The heat now became so great that it was almost unbearable, the thermometer every day rose to 112° or 116° in the shade, whilst in the direct rays of the sun from 140° to 150°. I really felt much anxiety on account of Mr. Poole and Mr. Browne, who did

not return to the camp until the 25th. So great was the heat, that the bullocks never quitted the shade of the trees during the day, and the horses perspired from their exertions to get rid of the mosquitos. On the 22nd the natives fired the hills to the north of us, and thus added to the heat of the atmosphere, and filled the air with smoke.

At 7 A.M. on the morning of that day the thermometer stood at 97°; at noon it had risen 10°, and at 3 P.M., the hottest period of the day, it rose to 118° in the shade. The wind was generally from the E.S.E., but it drew round with the sun, and blew fresh from the north at mid-day, moderating to a dead calm at sunset, or with light airs from the west. A deep purple hue was on the horizon every morning and evening, opposite to the rising and setting sun, and was a sure indication of excessive heat.

On the 23rd I sent Flood and Lewis to the N.E., with instructions to return on Christmas-day. At this time the men generally complained of disordered bowels and sore eyes, but I attributed both to the weather, and to the annoyance of the flies and mosquitos. The seeds were ripening fast along the banks of the creek, and we collected as many varieties as we could; but they matured so rapidly, and the seed-vessels burst so suddenly, that we had to watch them.

The comet, which we had first noticed on the 17th of the month, now appeared much higher and

brighter than at first. Its tail had a slight curve, and it seemed to be rather approaching the earth than receding from it.

On the morning of the 24th, about 5 A.M., I was roused from sleep by an alarm in the camp, and heard a roaring noise as of a heavy wind in that direction. Hastily throwing on my clothes, I rushed out, and was surprised to see Jones's dray on fire; the tarpaulin was in a blaze, and caused the noise I have mentioned. As this dray was apart from the others, and at a distance from any fire, I was at a loss to account for the accident; but it appeared that Jones had placed a piece of lighted cow-dung under the dray the evening before, to drive off the mosquitos, which must have lodged in the tarpaulin and set it on fire. Two bags of flour were damaged, and the outside of the medicine chest was a good deal scorched, but no other injury done. The tarpaulin was wholly consumed, and Jones lost the greater part of his clothes, a circumstance I should not have regretted if he had been in a situation to replace them.

Flood returned on the 25th, at 2 P.M., having found water in several places, but none of a permanent kind like that in the creek. He had fallen on a small and shallow lagoon, and had seen a tribe of natives, who ran away at his approach, although he tried to invite them to remain.

About an hour before sunset Mr. Poole and Mr. Browne returned, to the great relief of my mind;

for, with every confidence in their prudence, I could not help being anxious in such a situation as that in which I was placed, my only companions having then been many days absent. They had nearly reached the 28th parallel, and had discovered an abundance of water, but Mr. Poole was more sanguine than Mr. Browne of its permanency.

The first water they found at the commencement of their journey, was at a distance of 40 miles and upwards, and as I felt assured we should have great difficulty in taking the cattle so far without any, I sent Flood, on the 26th, to try if he could find some intermediate pool at which I could stop. Mr. Poole informed me that the ranges still continued to the north, but that they were changed in character, and he thought they would altogether terminate ere long.

He also reported to me that the day he left the camp he pursued a N.N.E. course, skirting an acacia scrub, and that arriving at a small puddle of water at 12 miles, he halted. That on the 12th he started at six, and after travelling about three miles first got a view of distant ranges to the north; he soon afterwards entered an acacia scrub, and at 15 miles crossed a creek, the course of which was to the S.W., but there was no water in it. At five the party reached the hills, the acacia scrub continuing to within a mile of them; and as the day had been exceedingly warm, Mr. Poole encamped in a little gully. He then walked with Mr. Browne to the top

of the nearest hill, and from it observed two lines of gum-trees in the plains below them to the north, which gave them hopes of finding water in the morning, as they were without any. Saw two detached ranges bearing 320° and 329° respectively, and a distant flat-topped hill, bearing 112° from them, the country appearing to be open to the north.

On the 13th, the party pushed on at an early hour for the gum-trees, but found no water. Observed numerous flights of pigeons going to the N.W. Traced the creek down for two miles, when they arrived at a place where the natives had been digging for water; here Mr. Poole left Mr. Browne and went further down the creek, when he succeeded in his search; but finding, on his return, that Mr. Browne and Mack had cleared out the well and got a small supply of water, with which they had relieved the horses and prepared breakfast, he did not return to the water he had discovered, but proceeded to the next line of gum-trees where there was another creek, but without water in it; coming on a small quantity in its bed at two miles, however, they encamped. A meridian altitude of Aldebaran here gave their latitude 30° 10′ 0″ S. On the following morning Mr. Poole started on a W.N.W. course for a large hill, from whence he was anxious to take bearings, and which he reached and ascended after a journey of 22 miles. From this hill, which he called the Magnetic Hill (Mount Arrowsmith), because on it the north point of the compass deviated to within 3° of

the south point, he saw high ranges to the north and north-east; a hill they had already ascended bore 157° 30′, and the flat-topped hill 118° 30′. From the Magnetic Hill, Mr. Poole went to the latter, and ascended the highest part of it. The range was rugged, and composed of indurated quartz, and there was a quantity of gypsum in round flat pieces scattered over the slopes of the hills. The country to the W. and W.N.W. appeared to be very barren. The range on which they were was perfectly flat at the top, and covered with the same vegetation as the plains below. From this point Mr. Poole went to the north, but at 12 miles changed his course to the N.E. for three miles, when he intersected a creek with gum-trees, and shortly afterwards found a large supply of permanent water. Their latitude at this point was 29° 47′ S., and up to it no change for the better had taken place in the appearance of the country. On Monday, the 15th, Mr. Poole ascended several hills to take bearings before he moved on; he then proceeded up the creek to the north-west, and passed from fifteen to twenty large water-holes. At about three miles, Mr. Poole found himself on an open table land, on which the creek turned to the west. He, therefore, left it, and at two miles crossed a branch creek with water and grass. At 7½ miles farther to the north crossed another creek, followed it for a mile, when it joined a larger one, the course of which was to the north-east. In this creek there were nume-

rous large pools of water. Crossing it, Mr. Poole ascended a hill to take bearings, from which he descended to a third creek, where he stopped for the night. On the following morning he continued his journey to the north, being anxious to report to me the character of the ranges. At 12 miles over open plains he intersected a creek trending to the eastward, in which there was an abundant supply of water; but this creek differed from the others in having muddy water, and but little vegetation in its neighbourhood. Passed some native huts, and saw twenty wild turkeys. At 10 miles from this creek Mr. Poole struck another, the ranges being still 12 miles distant. The horses having travelled for the last 10 miles over barren stony plains, had lost their shoes, and were suffering greatly. Mr. Poole, therefore, stopped at this place, and on consulting with Mr. Browne, determined to return to the camp without delay. Accordingly on the following morning he rode to the hills with Mr. Browne, leaving Mack with the other horses to await his return, and at 10 A.M. ascended the range. The view from it was not at all encouraging. The hills appeared to trend to the N.E., and were all of them flat-topped and treeless. The country to the west and north-west was dark with scrub, and the whole region barren and desolate. After taking bearings, Mr. Poole descended, returned to the creek on which he had left Mack, and as I have already stated, reached the camp on the evening of the 25th.

It will be obvious to the reader that the great danger I had to apprehend was that of having my retreat cut off from the failure of water in my rear; or if I advanced without first of all exploring the country, of losing the greater number of my cattle. It may be said that my officers had now removed every difficulty; but notwithstanding that Mr. Poole was sanguine in his report of the probable permanency of the water he had found, I hesitated whether to advance or not; but considering that under all circumstances the water they had found would still be available for a considerable time, and that it would enable me to push still further to the north, I decided on moving forward at once; but the weather was at this time so terrifically hot, that I hardly dared move whilst it continued, more especially as we had so great a distance to travel without water. I kept the party in readiness, however, to move at a moment's notice. On the 27th we had thunder, but no rain fell, and the heat seemed rather to increase than to decrease. On the 28th, at 2 P.M., the wind suddenly flew round to the south, and it became cooler. In hopes that it would continue, I ordered the tents to be struck, and we left Flood's Creek at half-past 4. As soon as I had determined on moving, I directed Mr. Poole to lead on the party in the direction he thought it would be best to take, and mounting my horse, rode with Mr. Browne and Mr. Stuart towards the ranges, to take bearings from a hill I had in-

tended to visit, but had been prevented from doing in consequence of the extreme heat of the weather. I did not, indeed, like leaving the neighbourhood without going to this hill. The distance, however, was greater than it appeared to be, and it was consequently late before we reached it; but once on the top we stood on the highest and last point of the Barrier Range; for although, as we shall learn, other ranges existed to the north, there was a broad interval of plain between us and them, nor were they visible from our position. We stood, as it were, in the centre of barrenness. I feel it impossible, indeed, to describe the scene, familiar as it was to me. The dark and broken line of the Barrier Range lay behind us to the south; eastward the horizon was bounded by the hills I had lately visited, and the only break in the otherwise monotonous colour of the landscape was caused by the plains we had crossed before entering the pine forest. From the south-west round to the east northwards, the whole face of the country was covered with a gloomy scrub that extended like a sea to the very horizon. To the north-west, at a great distance, we saw a long line of dust, and knowing it to be raised by the party, after having taken bearings and tried the point of boiling water, we descended to overtake it. In doing this we crossed several spurs, and found tolerably wide and grassy flats between them. Following one of these down we soon got on the open plains, and about half-past seven met Mr. Poole, who had left the party to go to

a fire he had noticed to the eastward, which he thought was a signal from us that we had found water; but such had not been our good fortune.

I now halted the party until the moon should rise, and we threw ourselves on the ground to take a temporary repose, the evening being cool and agreeable. At 11 we again moved on, keeping a north course, under Mr. Poole's guidance, partly over stony plains, and partly over plains of better quality, having some little grass upon them, until 8 A.M. of the morning of the 29th, when we stopped for an hour. As day dawned, Mr. Poole had caught sight of the hill, as he thought, to the base of which he wished to lead the party, and under this impression we continued our northerly course at 9, until by degrees we entered a low brush, and from it got into a pine forest and amongst ridges of sand. Mr. Poole had crossed a similar country; but the sandy ridges had soon ceased, and in the hope that such would now be the case he pushed forward until it was too late to retreat, for the exertion had already been very great to the animals in so heated and inhospitable a desert. In vain did the men urge their bullocks over successive ridges of deep loose sand, the moment they had topped one there was another before them to ascend. Seeing that they were suffering from the heat, I desired the men to halt, and sending Mr. Poole and Mr. Stuart forward with the spare horses and sheep to relieve them as soon as possible, I remained with the drays,

keeping Mr. Browne with me. We had not travelled more than half a mile, on resuming our journey, when we arrived at a dry salt lagoon, at which the sheep had stopped. I here determined on leaving two of the drays, in the hope that by putting an additional team into each of the others we should get on, although before this we had discovered that Mr. Poole had mistaken his object, and had inadvertently led us into the thickest of the pinery. The drivers, however, advanced but slowly with the additional strength I had given them, and it was clear they would never get out of their difficulties, unless some other plan were adopted. I therefore again stopped the teams, and sent Mr. Browne to the eastward to ascertain how far the ridges extended in that direction, since Mr. Poole's track appeared to be leading deeper into them. On his return he informed me that the ridges ceased at about a mile and a quarter; in consequence of which I turned to the north-east, but the bullocks were now completely worn out and refused to pull. To save them, therefore, it became necessary to unyoke and to drive them to water, and as Mr. Browne felt satisfied he could lead the way to the creek, I adopted that plan, and telling the men with the sheep to follow on our tracks, we left the drays, at 6 P.M., taking two of the men only with us, and clearing the sand ridges at dusk, entered upon and traversed open plains. We then stopped to rest the cattle until the moon should rise,

and laid down close to them; but although we kept watch, they had well nigh escaped us in search for water. At half-past ten we again moved on, and at midnight reached a low brush, in which one of the bullocks fell, and I was obliged to leave him. About two hours afterwards another fell, but these were the total of our casualties. We reached the creek at 3 in the morning of the 30th, and rode to a fire on its banks, where we found Davenport and Joseph with the cart; they had separated from Mr. Poole, who was then encamped about a quarter of a mile to the westward of them, although Davenport did not know where he was, nor had he found water. Our situation would have been exceedingly perplexing, if Mr. Browne, who had led me with great precision to this point, had not assured me that he recognised the ground, and that as soon as day dawned he would take me to the water. Just at this moment we saw another fire to the eastward, to which I sent Morgan on horseback, who returned with Mr. Poole, when we were enabled to give the poor animals the relief they so much required.

Having thus secured the horses and bullocks, I turned my attention to the men in the forest, with regard to whom I had no occasion to feel any alarm, as I had left ten gallons of water for their use, and strictly cautioned them not to be improvident with it. However, as soon as he had had a little rest, I sent Morgan with a spare horse for their empty casks to replenish them. At 2 o'clock

I sent Flood with four gallons of water to the nearest bullock that had fallen. About 11 Brock came up with the sheep all safe and well. Flood returned at 7, with information that the bullock was dead, but night closed in without our seeing anything of Morgan, and having nothing to eat we looked out rather anxiously for him. The water on which we rested was at some little distance from the creek, in a long narrow lagoon, but we had scarcely any shade from the intense heat of the sun, the water being muddy, thick, and full of frogs and crabs. I have observed upon the extreme and increasing heat that prevailed at this time. Notwithstanding this, however, the night was so bitterly cold that we were glad to put on anything to keep us warm. Our situation may in some measure account for this extreme variation of temperature, as we were in the bed of the creek which might yet have been damp, as its surface had only just dried up; perhaps also from exposure to such heat during the day we were more susceptible of the least change. Be that as it may, certain it is that as morning dawned on this occasion, when the thermometer stood at 67°, we crept nearer to our fires for warmth, and in less than six hours afterwards were in a temperature of 104°.

As we passed through the acacia scrub, we observed that the natives had lately been engaged collecting the seed. The boughs of the trees were all broken down, and there were numerous places

where they had thrashed out the seed, and heaped up the pods. These poor people must indeed be driven to extremity if forced to subsist on such food, as its taste is so disagreeable that one would hardly think their palates could ever be reconciled to it. Natives had evidently been in our neighbourhood very lately, but we saw none.

At this time I was exceedingly anxious both about Mr. Poole and Mr. Browne, who were neither of them well. The former particularly complained of great pain, and I regretted to observe that he was by no means strong.

About 10 o'clock on the morning of the last day of the year 1844, I was with Tampawang at the head of the lagoon, trying to capture one of the building rats, a nest of which we had found under a polygonum bush. We had fired the fabric, and were waiting for the rats to bolt, when we saw Morgan riding up to us. He stopped when he got to the water, and throwing himself on the ground drank long at it. Seeing that he came without anything for which he had been sent, I began to apprehend some misfortune; but on questioning him I learnt that he had been at the drays, and was on his return, when, stopping on the plains to let his horses feed, he fell fast asleep, during which time they strayed, and he was obliged to leave everything and walk until he overtook his horse near the creek. He said the men had consumed all the water I had left with them, and were in great alarm lest they

should die of thirst; I was exceedingly provoked at Morgan's neglect, more particularly as the comfort of the other men was involved in the delay, although they deserved to suffer for the prodigal waste of their previous supply. But it is impossible to trust to men in their sphere of life under such circumstances, as they are seldom gifted with that moral courage which ensures calmness in critical situations. I made every allowance too for their being in so hot a place, and it only remained for me to relieve them as soon as I could. I sent the ever ready Flood for the casks and provisions Morgan had left behind him, but it was necessarily late before he returned; I then directed him to get up two teams of the strongest bullocks, and with him and another of the men left Mr. Poole and Mr. Browne to go myself to the pine forest for two of the drays. About seven miles from the creek we met Lewis, who was on our tracks. He said he apprehended that Morgan had lost himself, and that he came on to ensure relief to the other men, who he said were suffering greatly from the want of water. At 9 P.M. we rounded up the cattle until the moon should rise, and made fires to prevent their escape. At 11 she rose, but it was behind clouds, so that it was 12 before we could move on. About two miles from the drays we saw Kirby wandering away from the track and called to him. This man would infallibly have been lost if we had not thus accidentally seen him. On reaching the party I found that

Lewis had somewhat exaggerated the state of affairs, still the men were bad enough, although they had not then been 36 hours without water.

Notwithstanding that the moon had risen behind clouds, the first sun of the new year (1845) rose upon us in all his brightness, and the temperature increased as he advanced to the meridian. As Jones was with the hindmost drays, I sent Sullivan on my horse with some water for him, and ordered Flood to precede me with two of the drays along a flat I had noticed as I rode along, by which they would avoid a good many of the ridges. Sullivan returned with Jones about half-past ten, who, he told me, so far from wanting water had given all I had sent him to the dogs. As there were twelve bullocks to each dray I was obliged to give the drivers assistance, and consequently had to leave Jones by himself in the forest. I allowed him however to keep two of the dogs, and gave him four gallons of water, promising to send for him in two days. I then mounted my horse to overtake the teams, which by the time I came up with them had got on better than I expected. But the heat was then so intense that I feared the bullocks would drop. I therefore ordered the men to come slowly and steadily on, and as I foresaw that they would want more water ere long, I rode ahead to send them some. On my arrival at the creek I was sorry to find both Mr. Poole and Mr. Browne complaining, and very much indisposed. During the short time

we had been at this spot, the water in the lagoon had rapidly diminished, and was now not more than a foot deep and very muddy. Fearing that the quality of the water was disagreeing with my officers, I ordered a well to be dug in the bed of the creek, from which we soon got a small quantity both clearer and better. Having despatched Joseph with a fresh supply for the party with the drays, I sat down to break my own fast which I had not done for many hours. In speaking to Mr. Browne of the intense heat to which we had been exposed in the pine forest, he informed me that the day had not been very hot with them, the thermometer not having risen above 94° at 2 P.M.

The drays reached the creek at 3 A.M. on the morning of the 2nd, both men and cattle fairly worn out. I had hoped they would have arrived earlier, but the men assured me that shortly after I left them the heat was so great they could hardly move onwards. The ground became so heated that the bullocks pawed it to get to a cool bottom, every time they stopped to rest. The upper leathers of Mack's shoes were burnt as if by fire, and Lewis's back was sadly blistered. The dogs lost the skin off the soles of their feet, and poor Fingall, one of our best, perished on the road.

Amidst all the sufferings of the other animals the sheep thrived exceedingly well under Tampawang's charge who was a capital shepherd. Their fleeces were as white as snow, and some of them were ex-

ceedingly fat. On the 3rd I sent Mr. Stuart to the Magnetic hill, Mount Arrowsmith, to verify Mr. Poole's bearings, in consequence of the great deviation of the compass from its true point, and also to sketch in that isolated group of hills; but as he found the same irregularity in his compass, I did not trust to the bearings either he or Mr. Poole had taken. The rock of which that hill was composed is a compact sandstone, with blocks of specular iron ore scattered over it, highly magnetic.

In the hope that a ride would do both my officers good, I sent them on the 4th to trace the creek up, and to fix on our next halting place. I also despatched Flood to the pine forest for the remaining drays, sending an empty one to lighten the other loads; a precaution that proved of great advantage, as the bullocks got on much easier than on the former occasion, but the day also was much cooler.

Mr. Poole and Mr. Browne returned at 11 on the 5th, but I was sorry to observe that Mr. Browne looked very unwell, and Mr. Poole continued to complain. They had however succeeded in their mission, and as I was very anxious to get them to better water, our lagoon being all but dry, I determined on moving northward on the 7th.

Flood re-crossed the creek on the morning of the 6th, when the bullocks completed a task of about 170 miles in eight days.

As I had determined on moving on the 7th, it became necessary to examine the drays, and I was

vexed to find that they wanted as much repair as they had done at Flood's Creek. The men were occupied wedging them up, and greasing them on the 6th, and finished all but that of Lewis, the repair of which threw it late in the day on the 7th, before we proceeded on our journey. Independently, however, of my anxiety on account of my officers, several of the men were indisposed, and I was glad to break up our camp and fix it in a healthier spot than this appeared to be.

We started at 5 P.M., but as we had only about eight miles to go, it was not a matter of much consequence. We arrived at our destination at 10 P.M., but had some difficulty in finding the water, nor do I think we should have done so if we had not been guided to it by the hoarse and discordant notes of a bull-frog.

I had sent Mr. Stuart in the morning to some hills on our left, and Mr. Browne had ridden in the same direction to collect some seeds of a purple Hibiscus, and neither had joined the party when it reached the creek, as soon therefore as the cattle were unyoked, I fired a shot which they fortunately heard. Our collection of natural history still continued scanty. A very pretty tree, a new species of Grevillia, out of flower, however, and which I only concluded to be a Grevillia from its habit, and the appearance of its bark, had taken the place of the gum-trees on the creeks, and the jasmine was everywhere common, but, with the exception of a

few solani and some papilionaceous plants, we had seen nothing either new or rare.

Of birds the most numerous were the new pigeon and the black-shouldered hawk; but there was a shrike that frequented the creeks which I should have noticed before. This bird was about the size of a thrush, but had the large head and straight-hooked bill of its species; in colour it was a dirty brownish black, with a white bar across the wings. Whilst we were staying at Flood's Creek, one of these birds frequented the camp every morning, intimating his presence by a shrill whistle, and would remain for an hour trying to catch the tunes the men whistled to him. His notes were clear, loud, metallic and yet soft; their variety was astonishing, and his powers of imitation wonderful; there was not a bird of the forest that he did not imitate so exactly as to deceive. I would on no account allow this songster to be disturbed, and the consequence was that his rich note was the first thing heard at dawn of day, during the greater part of our residence in that neighbourhood.

We passed several native huts shortly after leaving the creek that were differently constructed from any we had seen. They were all arched elliptically by bending the bough of a tree at a certain height from the ground, and resting the other end on a forked stick at the opposite side of the arch. A thick layer of boughs was then put over the roof and back, on which there was also a thick coating of red

clay, so that the hut was impervious to wind or heat. These huts were of considerable size, and close to each there was a smaller one equally well made as the larger. Both were left in perfect repair, and had apparently been swept prior to the departure of their inmates.

On the 8th we started at 5 A.M., and reached our destination (a place to which Mr. Poole had already been) at 11. We crossed barren stony plains, having some undulating ground to our left, and the magnetic hill as well as another to the south of it shewed as thunder clouds above the horizon. On our arrival at the creek we found about 30 fires of natives still burning, whom we must have frightened away. We did not see any of them, nor did I attempt to follow on their tracks which led up the creek.

As I have already stated the fall of Flood's Creek was to the west. The creek from which we had just removed, as well as the one on which we then were, fell in the opposite direction or to the eastward, terminating after short courses either in grassy plains or in shallow lagoons.

On the 9th I remained stationary, and thus gave Mr. Piesse an opportunity to examine a part of our stores. He reported to me that the flour had lost weight nearly 10 per cent., some of the bags not weighing their original quantity by upwards of sixteen pounds. As the men had their full allowance of meat, I thought it advisable, in consequence of this, to reduce the ration of flour to 7 lb. per week,

and I should be doing an injustice to them if I did not give them credit for the readiness with which they acquiesced in this arrangement.

The 10th of the month completed the fifth of our wanderings. We left our position rather late in the day, and halted a little after sunset at the outskirt of a brush, into which I was afraid to enter by that uncertain light, and as the animals had been watered at a small creek we crossed not long before, I had no apprehension as to their suffering. We started at 4 A.M. on the morning of the 11th, and soon passed the scrub; we then traversed open plains thickly covered in many places with quartz, having crossed barren sandy plains on the other side of the scrub. We now found the country very open, and entirely denuded of timber, excepting on the creeks, the courses of which were consequently most distinctly marked. Keeping a little to the eastward to avoid the gullies connected with some barren stony hills to our left, we descended to the ground Mr. Poole had fixed upon as our next temporary resting place. To the eye of an inexperienced bushman its appearance was in every respect inviting; there was a good deal of grass in its neighbourhood; the spot looked cheerful and picturesque, with a broad sheet of water in the creek, which when Mr. Poole first saw it must have been much larger and deeper; but in the interval between his first and second visit, it had been greatly reduced, and now presented a broad and shallow surface, and I felt

assured that it would too soon dry up. Convinced therefore of the necessity of exertion, to secure to us if possible a supply of water, on which we could more confidently rely; I determined on undertaking myself the task of looking for it without delay. Both Mr. Poole and Mr. Browne were better, and the men generally complained less than they had done. On Sunday, the 12th, we had thunder with oppressive heat, but no rain. On Monday the wind, which had kept with the regularity of a monsoon to the E.S.E., flew round to the N.W., the thermometer at noon standing at 108° in the shade.

From the period at which we left Flood's Creek we had not seen any hills to the eastward, the ranges having terminated on that side. The hills we had passed were detached from each other, and to the westward of our course. The fall of the creek on which we were at this time encamped was consequently to the eastward, but there was a small hill about five miles to the E.N.E., under which it ran; that hill was the southern extremity of the ranges Mr. Poole and Mr. Browne had lately visited.

I left the camp on the 14th of the month, in the anxious hope that I should succeed in finding some place of more permanent safety than the one we then occupied, for we could almost see the water decrease, so powerful was the evaporation that was going on. I was accompanied by Mr. Browne and Mr. Poole, with Flood, Joseph, and Mack; but Mr. Poole only attended me with a view to his returning the

next day with Mack, in the event of our finding water, to which he might be able to remove during my absence. We traced the creek upwards to the north-west, and at about four miles came to another, joining it from the westward. There was no water, but a good deal of grass about its banks, and it was evidently a tributary of no mean consequence. Crossing this we traced up the main creek on a more northerly course, having the Red Hill, subsequently called Mount Poole, on our left. We were obliged to keep the banks of the creek to avoid the rough and stony plains on either side. A little above the junction of the creek I have noticed, we passed a long water-hole, at which Mr. Poole and Mr. Browne had stopped on their excursion to the north; but it was so much diminished that they could hardly recognise it. The fact however shewed how uncertain our prospects were at this period. The bed of the creek was grassy, but broad, level, and gravelly. At almost every turn to which we came Mr. Poole assured me there had been, when he passed, a large sheet of water; but not a drop now remained, nor could we by scratching find the least appearance of moisture. Yet it was evident that this creek was at times highly flooded, there being a great accumulation of rubbish at the butts of the trees on the flats over which its waters must sweep, and the trunks of trees were lodged at a considerable height in the branches of those growing in its bed. Following its general course for 14 miles, we were led some-

what to the eastward of north, towards some hills in that direction, from which the creek appeared to issue, and then halted for the night, after a vain search for water. The Red Hill bore S. 47° W., and some hills of less elevation were seen more to the westward of it, but beyond the last towards the north there were vast open and stony plains, destitute of timber and with very little vegetation upon them. On the morning of the 15th, at 5 P.M., we traversed these plains on a north course, and at 11 miles struck the creek of which Mr. Poole had spoken as containing muddy water, and found it precisely as he described. There were long water-holes about twenty-five feet broad, and three or four deep; but the water was exceedingly muddy. The banks were of a stiff, light-coloured clay, without any vegetation either on them or the contiguous flats, except a few bushes of polygonum growing under box-trees.

We here stopped to breakfast, although there was but little for the horses to eat. We then proceeded on a south-east course down the creek, keeping close upon its banks to avoid the macadamized plains on either side. To our left there were some undulating hills, and beyond them the summits of some remarkable flat-topped hills were visible. After leaving the place where we had breakfasted, we did not find any more water in the bed of the creek, but halted late in the afternoon at a small lagoon, not far from it. This lagoon was surrounded by trees; but like those of the creek its waters were muddy

and not more than 18 inches deep. Our latitude at this point was 29° 14′ S., and our longitude 141° 42′ E.; the variation being 5° 5′ E.

Not wishing to keep Mr. Poole any longer away from the party, I sent him back to the camp on the 16th, with Mack, directing him to examine the creek we had crossed on his way homewards; as it appeared to me to break through some hills about three miles from its junction with the main creek, and I thought it probable he might there find water. I also directed him during my absence to trace the creek on which the camp was established downwards, to ascertain if there was water in it below us.

In the mean time Mr. Browne and I pushed on for the ranges, which presented a very singular appearance as we surveyed them from the lagoon.

The geological formation of these hills was perfectly new, for they were now composed almost exclusively of indurated or compact quartz. The hills themselves no longer presented the character of ranges, properly so called, but were a group of flat-topped hills, similar to those figured by Flinders, King, and other navigators. Some were altogether detached from the main group, not more than two-thirds of a mile in length, with less than a third of that breadth, and an elevation of between three and four hundred feet. These detached hills were perfectly level at the top, and their sides declined at an angle of 54°. The main group as we now saw it appeared to consist of a number of projecting points,

connected by semicircular sweeps of greater or less depth. There was no vegetation on the sides either of the detached hills or of the projecting points, but they consisted of a compact white quartz, that had been split by solar heat into innumerable fragments in the form of parallelograms. Vast heaps of these laid at the base of the hills, and resembled the ruins of a town, the edifices of which had been shaken to pieces by an earthquake, and on a closer examination it appeared to me that a portion of the rock thus scaled off periodically. We approached these hills by a gradual ascent, over ground exceedingly stony in places; but as we neared them it became less so, the soil being a decomposition of the geological structure of the hills. It was covered with a long kind of grass in tufts, but growing closer together than usual. There were bare patches of fine blistered soil, that had as it were been raised into small hillocks, and on these, rounded particles, or stools, if I may so call them, of gypsum rested, oval or round, but varying in diameter from three to ten inches or more. These stools were perfectly flat and transparent, the upper surface smooth, but in the centre of the under surface a pointed projection, like that in a bull's eye in window glass was buried in the ground, as if the gypsum was in process of formation.

On leaving the lagoon, we crossed the creek, riding on a north-east course over stony plains, and at five miles struck another creek in which we found a good

supply of water, coming direct from the hills, and continuing to the S.S.E., became tributary to the one we had just left. I had taken bearings of two of the most prominent points on the ranges from the lagoon, and directing Flood to go to one of them with Joseph, and wait for me at the base, I rode away with Mr. Browne to ascend the other; but finding it was much farther than we had imagined, that it would take us out of our way, and oblige us to return, we checked our horses and made for the other hill, at the foot of which Flood had already arrived. The ascent was steep and difficult, nor did the view from its summit reward our toil. If there was anything interesting about it, it was the remarkable geological formation of the ranges. The reader will understand their character and structure from the accompanying cut, better than from any description

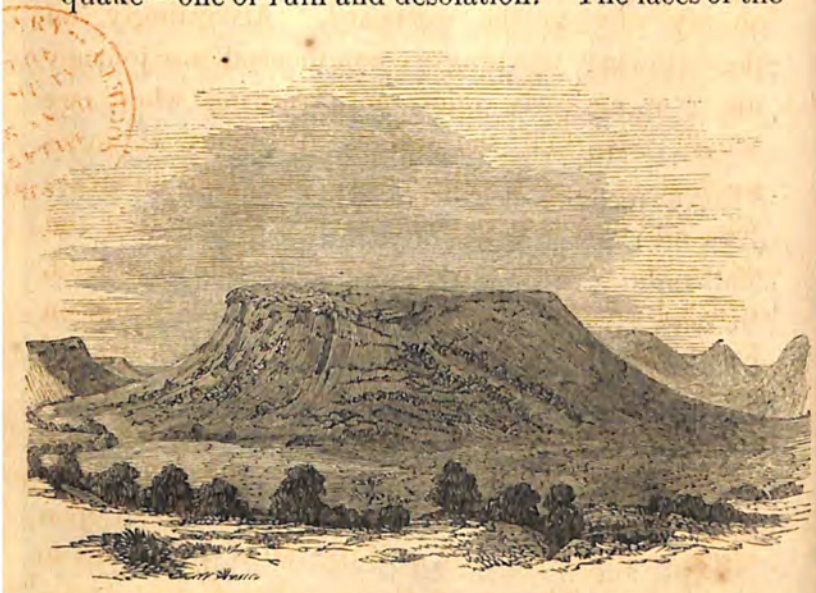
I can give. They were, in fact, wholly different in formation from hills in general. To the westward there was a low, depressed tract, with an unbroken horizon and a gloomy scrub. Southwards the country was exceedingly broken, hilly, and con-

fused; but there was a line of hills bounding this rugged region to the eastward, and immediately beyond that range were the plains I had crossed in going to Mount Lyell. From the point on which we stood there were numerous other projecting points, similar to those of the headlands in the channel, falling outwards at an angle of 55°, as if they had crumbled down from perpendicular precipices. The faces of these points were of a dirty white, without any vegetation growing on them; they fell back in semicircular sweeps, and the ground behind sloped abruptly down to the plains. The ranges were all flat-topped and devoid of timber, but the vegetation resembled that of the country at their base, and the fragments of rock scattered over them were similar: that is to say, milky quartz, wood opal, granite, and other rocks (none of which occurred in the stratification of these ranges), were to be found on their summits as on the plains, and in equal proportion, as if the whole country had once been perfectly level, and that the hills had been forced up. Such indeed was the impression upon Mr. Poole's mind, when he returned to me from having visited these ranges. "They appear," he remarked, "to have been raised from the plains, so similar in every respect are their tops to the district below." Our eyes wandered over an immense expanse of country to the south, and we were enabled to take bearings of many of the hills near the camp, although there was some uncertainty in our re-

cognition of them at the distance of 40 miles. The Red Hill, however, close to the camp bore south, and was full that distance from us. We could also see the course of the creeks we had been tracing, ultimately breaking through the range to the eastward and passing into the plains beyond. Behind us to the north there were many projecting points appearing above the level of the range. These seemed to be the northern termination of these hills, and beyond them the country was very low. The outline of the projecting points was hilly, and they were so exactly alike that it would have been impossible to have recognised any to which we might have taken bearings; but there were two little cones in a small range to the north upon which I felt I could rely with greater certainty. They respectively bore 302 and 306 from me; and as they were the only advanced points on which I could now keep up bearings, although in the midst of hills, I determined as soon as I should have examined the neighbourhood a little more, to proceed to them. From our first position we went to the next, a hill of about 450 feet in height, perfectly flat-topped, and detached from the main group.

In crossing over to this point the ground was stony, but there was a good deal of grass growing in tufts upon it, and bare patches of blistered earth on which flat stools of gypsum were apparently in process of formation. Immediately to the left there were five remarkable conical hills. These we successively

passed, and then entered a narrow, short valley, between the last of these cones and the hill we were about to ascend. The ground was covered with fragments of indurated quartz (of which the whole group was composed), in parallelograms of different dimensions. The scene was like that of a city whose structures had been shaken to pieces by an earthquake—one of ruin and desolation. The faces of the



Part of the Northern Range.

hills, both here and in other parts of the group, were cracked by solar heat, and thus the rock was scaling off. We were here obliged to dismount and walk. The day being insufferably hot, it was no pleasant task to climb under such exposure to an elevation of nearly 500 feet. We had frequently to take breath during our ascent, and reached the

summit of the hill somewhat exhausted. The view was precisely similar to that we had overlooked from the opposite point, which bore W. by N. from us. Again the two little peaks were visible to the N.N.W., and after taking bearings of several distant points, we descended, as I had determined on returning for the night to the creek we had passed in the morning, and tracing it into the hills on my way to the westward. Accordingly, on the following morning we commenced our journey up it at an early hour, not knowing where we should next find the water. At about six miles we had entered a valley, with high land on either side, and at a mile beyond reached the head of the creek, and had the steep brow of a hill to ascend, which I thought it most prudent first to attempt on foot. Mr. Browne and I, therefore, climbed it, and on looking back to the north-east, saw there was a declining plain in that direction. Over the level outline the tops of the projections of this range were to be seen all exactly alike; but there was an open space to the north-east, as if the fall of waters was to that point. There were also some low scattered trees upon the plain, seeming to mark the course of a creek. Anxious to ascertain if we had been so fortunate, I looked for a practicable line for the horses to ascend, and having got them up the hill, we pushed forward. On arriving at the first trees, there was a little channel, or rather gutter, and a greener verdure marked its course along the plain to the next trees. Gra-

dually it became larger, and at last was fully developed as a creek. After tracing it down for some miles, having stony barren plains on both sides, we turned to look for the hill we had so lately left, and only for a red tint it had peculiar to itself, should we again have recognised it. We now pushed on in eager anticipation that sooner or later water would appear, and this hope was at last gratified by our arrival at a fine pool, into which we drove a brood of very young ducks, and might, if we had pleased, shot the mother; but although a roast duck would have been very acceptable, we spared her for her children's sake. This was a nice pond, but small. It was shaded by gum-trees, and there was a cavernous clay bank on the west side of it, in which gravel stones were embedded. Here we staid but for a short time, as it was early in the day. We had flushed numerous pigeons as we rode along, and flights came to the water while we stopped, but were not treated with the same forbearance as the duck. We shot two or three, and capital eating they were. About 3, we had left the creek, as it apparently turned to the eastward, and was lost on the plain, and crossing some stony ground, passed between two little ranges. We then found ourselves on the brow of a deep valley that separated us from the little cones we purposed ascending. The side of it which trended to the north-west was very abrupt and stony, and it was with some difficulty we descended into it; but

General appearance of the Northern Ranges at their Termination.

that done, we left Morgan and Flood with the cart, and ascended the nearer peak.

From the summit of the highest of the cones we had a clear view round more than one half of the horizon. Immediately at the base of the ranges northwards, there was a long strip of plain, and beyond it a dark and gloomy scrub, that swept round from S.W. to E., keeping equi-distant from the hills, excepting at the latter point where it closed in upon them. On the N.W. horizon there was a small low undulating range, apparently unconnected with any other, and distant about 40 miles. No change had taken place in the geological formations of the main range. The same abrupt points, and detached flat-topped hills, characterised their northern as well as the southern extremity. We had now however reached their termination northwards, but they continued in an easterly direction until they were totally lost in the dark mass of scrub that covered and surrounded them, not one being of sufficient

height to break the line of the horizon. To the S.W. a column of smoke was rising in the midst of the scrub, otherwise that desolate region appeared to be uninhabited. On descending from the peak, we turned to the N.W. along the line of a water-course at the bottom of the valley, tracing it for about four miles with every hope of finding the element we were in search of in its green bed, but we gained the point where the valley opened out upon the plains, and halted under disappointment, yet with good grass for the horses. Our little bivouac was in lat. 29° 2′ 14″ S. The above outline will enable the reader to judge of the character of the hills, that still existed to the eastward of us, and the probability of their continuance or cessation. I must confess that they looked to me as if they had been so many small islands, off the point of a larger one. They rose in detached groups from the midst of the plains, as such islands from the midst of the sea, and their aspect altogether bore such a striking resemblance to many of the flat-topped islands round the Australian continent described by other travellers, that I could not but think they had once been similarly situated.

On the 18th I passed into the plains until we had cleared the hills, when we rode along their base on a course somewhat to the east of north. We kept about half a mile from the foot of the ranges, with the brush about three miles to our left, and a clear space between us and them. I had been induced to take this direction in the hope that if there were

any creeks falling from the hills into the plains we should intersect them, and accordingly after a ride of about seven miles we observed some gum-trees, about two miles ahead. On a nearer approach we saw flights of pigeons, cockatoos, and parrots winging round about them, and making the air resound with their shrill notes. The anticipations these indications of our approach to water raised, were soon verified by our arrival on the banks of a small creek coming from the hills. Under the trees there were two little puddles, rather than pools of water. The one had been reduced to its last dregs, and smelt offensively, the other was very muddy but drinkable, and such as it was we were most grateful for it. The horses requiring rest here, I halted for the night, more especially as the day was unusually hot, and as we could see the creek line of trees extending to the N.W., towards the low range we had noticed in that direction from the little peak, I determined therefore to run it down in the morning, and to make for them, in the hope that something new would develop itself.

On the other side of the creek from that on which we remained, there was a new but unfinished hut. Round about it were the fresh impressions of feet of all sizes, so that it was clear a family of natives must have been engaged in erecting this simple edifice when we were approaching, and that we must have frightened them away. Under this idea Mr. Browne and I tried to find them, perhaps hid in some low brush near us, but we could not. The

plains were exceedingly open on both sides, so that they must have seen us at a great distance, and thus had time for flight.

On the 19th we started at daylight, as I proposed if possible to gain the hills before sunset, that being as much as the horses would do. Running the creek down at three and a half miles we were again attracted by a number of birds, pigeons, the rose cockatoo, the crested paroquet, and a variety of others flying round a clump of trees at no great distance from us, but they were exceedingly wild and watchful. We found a pool under, or rather shaded by the trees, of tolerable size, and much better than the water nearer to the hills. Close to it also, on a sloping bank, there was another more than half finished hut from which the natives could only just have retreated, for they had left all their worldly goods behind them; thus it appeared we had scared these poor people a second time from their work. I was really sorry for the trouble we had unintentionally given them, and in order to make up for it, I fastened my own knife with a glittering blade, to the top of a spear that stood upright in front of the hut; not without hopes that the owner of the weapon seeing we intended them no harm, would come to us on our return from the hills.

Below this water-hole the creek sensibly diminished. Crossing and abandoning it we struck away to the N.W. At about half a mile we entered the scrub, which had indeed commenced from the water, but which at that distance became thick.

We were then in a perfect desert, from the scrub we got on barren sandy flats, bounded at first by sandy ridges at some little distance from each other, but the formation soon changed, and the sand ridges succeeded each other like waves of the sea. We had no sooner descended one than we were ascending another, and the excessive heat of so confined a place oppressed us greatly. We had on our journey to the westward found an abundance of grass on the sand ridges as well as the flats; but in this desert there was not a blade to be seen. The ridges were covered with spinifex, through which we found it difficult to force a way, and the flats with salsolaceous productions alone. There were no pine trees, but the brush consisted of several kinds of acacia, casuarina, cassia, and hakeæ, and these were more bushes than shrubs, for they seldom exceeded our own height, and had leaves only at the termination of their upper branches, all the under leaves having dropped off, withered by the intensity of the reflected surface heat. At one we stopped to rest the horses, but mounted again at half-past one, and reached the hills at 5 P.M. The same dreary desert extended to their base, only that as we approached the hills the flats were broader, and the fall of waters apparently to the east. The surface of the flats was furrowed by water, and there were large bare patches of red soil, but with the exception of a flossy grass that grew sparingly on some of them, nothing but rhagodia and atriplex flourished.

I had tried the temperature of boiling water at the spot where we stopped in the Rocky Glen, and found it to be 211° and a small fraction; and as we descended a little after leaving the creek, we could not have been much above the sea level at one period of the day, although now more than 450 miles from the coast. Our ascent to the top of the little range was very gradual; its sides destitute alike of trees and vegetation, being profusely covered with fragments of indurated quartz, thinly coated with oxide of iron: when on the summit we could not have risen more than 120 feet. It extended for some miles to the N.E., apparently parallel to the ranges from which we had come, whose higher points were visible from it, but to the north and west the horizon was as level as that of the ocean. A dark gloomy sea of scrub without a break in its monotonous surface met our gaze, nor was there a new object of any kind to be seen indicative of a probable change of country. Had other hills appeared to the north I should have made for them, but to have descended into such a district as that below me, seemed to be too hazardous an experiment at this stage of our journey. I determined therefore to return to the main range, and examine it to the north-east. I could not but think, however, from the appearance of the country as far as we had gone, that we could not be very far from the outskirts of an inland sea, it so precisely resembled a low and barren sea coast. This idea I may say haunted me, and was the cause

of my making a second journey to the same locality; but on the present occasion, as the sun had set, I retraced my steps to a small flat where we had noticed a little grass, and tethering our horses out laid down to rest.

The desert ridden through the day before, seemed doubly desolate as we returned. The heat was intolerable, in consequence of a hot wind that blew upon us like a sirocco from the N.W., and the air so rarified that we could hardly breathe, and were greatly distressed. To our infinite relief we got back to the creek at half-past two, after a ride of about 37 miles.

The first thing we did on arriving, was to visit the hut of the natives to see if they had been there during our absence, but as my knife still dangled on the spear, we were led to conclude they had not. On examining the edifice, however, we missed several things that had been left untouched by us, and from the fresh footsteps of natives over our own of the day before, it was clear they had been back. The knife which was intended as a peace-offering, seems to have scared them away in almost as much haste as if we had been at their heels. There can be no doubt but that they took it for an evil spirit, at which they were, perhaps, more alarmed than at our uncouth appearance. Be that as it may, we departed from the creek without seeing anything of these poor people.

At a little distance from the creek to the N.W., upon a rising piece of ground, and certainly above the reach of floods, there were seven or eight huts, very different in shape and substance from any we had seen. They were made of strong boughs fixed in a circle in the ground, so as to meet in a common centre; on these there was, as in some other huts I have had occasion to describe, a thick seam of grass and leaves, and over this again a compact coating of clay. They were from eight to ten feet in diameter, and about four and a half feet high, the opening into them not being larger than to allow a man to creep in. These huts also faced the north-west, and each had a smaller one attached to it as shewn in the sketch. Like those before seen they had been left in the neatest order by their occupants, and were evidently used during the rainy season, as they were at some little distance from the creek, and near one of those bare patches in which water must lodge at such times. At whatever season of the year the natives occupy these huts they must be a great comfort to them, for in winter they must be particularly warm, and in summer cooler than the outer air; but the greatest benefit they can confer on these poor people must be that of keeping them from ants, flies, and mosquitos: it is impossible to describe to the reader the annoyance we experienced from the flies during the day, and the ants at night. The latter in truth swarmed in

Native Village in the Northern Interior.

ROYAL GEOGRAPHICAL SOCIETY

myriads, worked under our covering, and creeping all over us, prevented our sleeping. The flies on the other hand began their attacks at early dawn, and whether we were in dense brush, on the open plain, or the herbless mountain top, they were equally numerous and equally troublesome. On the present occasion Mr. Browne and I regretted we had not taken possession of the deserted huts, as, if we had, we should have got rid of our tormentors, for there were not any to be seen near them. From the fact of these huts facing the north-west I conclude that their more inclement weather is from the opposite point of the compass. It was also evident from the circumstance of their being unoccupied at that time (January), that they were winter habitations, at which season the natives, no doubt, suffer greatly from cold and damp, the country being there much under water, at least from appearances. I had remarked that as we proceeded northwards the huts were more compactly built, and the opening or entrance into them smaller, as if the inhabitants of the more northern interior felt the winter's cold in proportion to the summer heat.

Our position at this point was in latitude 29° 43′ S., and in longitude 141° 14′ E., the variation being 5° 21′ East. I had intended pushing on immediately to the ranges, and examining the country to the north-east; but I thought it prudent ere I did this to ascertain the farther course of this creek, as it appeared from observations we had just made that the

fall of waters was to the eastward. We accordingly started at daylight on the 20th, but after tracing it for a few miles, found that it turned sharp round to the westward and spread over a flat, beyond which its channel was nowhere to be found. I therefore turned towards the ranges, and arriving at the upper water-hole at half-past two, determined to stop until the temperature should cool down in the afternoon before I proceeded along the line of hills to the N.E., for the day had been terrifically hot, and both ourselves and our horses were overpowered with extreme lassitude. At a quarter past 3, P.M. on the 21st of January, the thermometer had risen to 131° in the shade, and to 154° in the direct rays of the sun. In the evening however we pushed on for about ten miles, and halted on a plain about a mile from the base of the hills, without water.

On the 22nd we continued our journey to the north-east, through a country that was anything but promising. Although we were traversing plains, our view was limited by acacias and other trees growing upon them. Notwithstanding that we kept close in to the ranges, the water-courses we crossed could hardly be recognised as such, as they scarcely reached to a greater distance than a mile and a half on the plains, before they spread out and terminated. As we advanced the brush became thicker, nor was there anything to cheer us onwards. In the afternoon therefore I turned towards the hills, and ascended one of them,

to ascertain if there was any new object in sight, but here again disappointment awaited us.

The hills were more detached than in other places, and much lower. The brush swept over them, and we could see it stretching to the horizon on the distant plains between them. Excepting where the nearer hills rose above it, that horizon was unbroken; nor were the hills, although detached groups still existed to the north-east, distinguishable from the dark plains round them, as the brush extended over all, and the same sombre hue pervaded everything. I should still, however, have persevered in exploring that hopeless region; but my mind had for the last day or two been anxiously drawn to the state of the camp, and the straits to which I felt assured it would have been put, if Mr. Poole had not succeeded in finding water in greater quantity than that on which the people depended when Mr. Browne and I left them. Having been twelve days absent, I felt convinced that the water in the creek had dried up, and thought it more than probable that Mr. Poole had been forced to move from his position. Under such circumstances, I abandoned, for the time, any further examination of the north-east interior, and turning round to the south-west, passed up a flat rather than a valley between the hills, and halted on it at half-past 6 P.M. On the 23rd, we continued on a south-west course, and gradually ascended the more elevated part of the range; at 2 P.M. reached the water-hole we discovered the day

we crossed the hills to the little peaks. Our journey back to the camp was only remarkable for the heat to which we were exposed. We reached it on the 24th of the month, and were really glad to get under shelter of the tents. All the water in the different creeks we passed in going out, had sunk many inches, and as I had feared, that at the camp had entirely vanished, and Mr. Poole having been obliged to dig a hole in the middle of the creek, was obtaining a precarious supply for the men, the cattle being driven to a neighbouring pond, which they had all but exhausted.

As the reader will naturally conclude, I was far from satisfied with the result of this last excursion. It had indeed determined the cessation of high land to the north and north-east; for although I had not reached the termination of the ranges in the latter direction, no doubt rested on my mind but that they gradually fell to a level with the plains. We had penetrated to lat. 28° 43′ S., and to long. 141° 4′ 30″; but had found a country worse than that over which we had already passed—a country, in truth, that under existing circumstances was perfectly impracticable. Yet from appearances I could not but think that an inland sea existed not far from the point we had gained. As I have already observed, the fall of all the creeks from Flood's Creek had been to the eastward, and from what we could judge at our extreme north, the dip of the country was also to the eastward. I thought it more than probable,

therefore, that we were still in the valley of the Darling, and that if we could have persevered in a northerly course, we should have crossed to the opposite fall of waters, and to a decided change of country.

We had hitherto made but few additions to our collections. A new hawk and a few parrots were all the birds we shot; and if I except another new and beautiful species of Grevillia, we added nothing to our botanical collections. The geological formation was such as I have already described—a compact quartz of a dirty white. Of this adamantine rock all the hills were now composed.

A remarkable feature in the geology of the hills we had recently visited was, as I have remarked, that they were covered with the same productions and the same stones as the plains below, of which they seemed to have formed a part. Milky quartz was scattered over them, although no similar formation was visible; of manganese, basalt, and ironstone, with other substances, there were now no indications. None of these fragments had been rounded by attrition, but still retained their sharp edges and seemed to be little changed by time.

Mr. Poole informed me, that the day he returned to the party he proceeded towards the little range I had directed him to examine; in which, I should observe, both he and Mr. Browne thought there might be water, as they had passed to the westward of it, on their last journey towards the hills,

and had then noticed it. Mr. Poole stated, that on approaching the range he arrived at a line of gum-trees, under which there was a long deep sheet of water; that crossing at the head of this, he entered a rocky glen, where there were successive pools in stony basins, in which he considered there was an inexhaustible supply of water for us; but that although the water near the camp had dried up, he had been unwilling to move until my return. The reader may well imagine the satisfaction this news gave me; for had my officer not been so fortunate, our retreat upon the Darling would have been inevitable, whatever difficulties might have attended such a movement—for we were in some measure cut off from it, or should only have made the retreat at an irreparable sacrifice of animals. Mr. Poole had also been down the creek whereon the camp was posted, and had found that it overflowed a large plain, but failing to recover the channel, he supposed it had there terminated. He met a large tribe of natives, amounting in all to forty or more, who appeared to be changing their place of abode. They were very quiet and inoffensive, and seemed rather to avoid than to court any intercourse with the party.

Foulkes, one of the bullock drivers, had had a sharp attack of illness, but was in some degree recovered. In all other respects everything was regular, and the stock at hand in the event of their being wanted.

I was exceedingly glad to find that the natives had not shewn any unfriendly disposition towards Mr. Poole and his men; but I subsequently learnt from him a circumstance that will in some measure account for their friendly demonstrations. It would appear that Sullivan and Turpin when out one day, during my absence, after the cattle, saw a native and his lubra crossing the plains to the eastward, with some stones for grinding their grass seed, it being their harvest time. Sullivan went after them; but they were exceedingly alarmed, and as he approached the woman set fire to the grass; but on seeing him bound over the flaming tussocks, they threw themselves on the ground, and as the lad saw their terror he left them and returned to his companion. No sooner, however, had these poor creatures escaped one dreaded object than they encountered another, in the shape of Mack, who was on horseback. As soon as they saw him they took to their heels; but putting his horse into a canter, he was up with them before they were aware of it; on this they threw down their stones, bags, net, and fire-stick, and scrambled up into a tree. The fire-stick set the grass on fire, and all their valuables would have been consumed, if Mack had not very properly dismounted and extinguished the flames, and put the net and bags in a place of safety. He could not, however, persuade either of the natives to descend, and therefore rode away. Mack happened to be with Mr. Poole at the time he met the tribe, and was recognised by the

man and woman, who offered both him and Mr. Poole some of their cakes. Had the behaviour of my men been different, they would most likely have suffered for it; but I was exceedingly pleased at their strict compliance with my orders in this respect, and did not fail to express my satisfaction, and to point out the beneficial consequences of such conduct.

Mr. Poole having thus communicated with the natives, I was anxious to profit by it, and if possible to establish a friendly intercourse; the day after my arrival at the camp, therefore, I went down the creek with Mack in the hope of seeing them. I took a horse loaded with sugar and presents, and had every anticipation of success; but we were disappointed, since the whole tribe had crossed the plains, on the hard surface of which we lost their tracks. On this ride I found a beautiful little kidney bean growing as a runner amongst the grass, on small patches of land subject to flood. It had a yellow blossom, and the seed was very small and difficult to collect, as it appeared to be immediately attacked by insects.

The fact of the natives having crossed the plain confirmed my impression that the creek picked up beyond it, and I determined on the first favourable opportunity to ascertain that fact. It now, however, only remained for me to place the camp in a more convenient position. To do this we moved on the 27th, and whilst Mr. Browne led the party across the plains, I rode on ahead with Mr. Poole to select

the ground on which to pitch our tents. At the distance of seven miles we arrived at the entrance of the little rocky glen through which the creek passes, and at once found ourselves on the brink of a fine pond of water, shaded by trees and cliffs. The scenery was so different from any we had hitherto seen, that I was quite delighted, but the ground being sandy was unfit for us, we therefore turned down the creek towards the long sheet of water Mr. Poole had mentioned, and waited there until the drays arrived, when we pitched our tents close to it, little imagining that we were destined to remain at that lonely spot for six weary months. We were not then aware that our advance and our retreat were alike cut off.

CHAPTER VI.

THE DEPÔT—FURTHER PROGRESS CHECKED—CHARACTER OF THE RANGES — JOURNEY TO THE NORTH-EAST — RETURN —JOURNEY TO THE WEST—RETURN—AGAIN PROCEED TO THE NORTH—INTERVIEW WITH NATIVES—ARRIVE AT THE FARTHEST WATER—THE PARTY SEPARATES — PROGRESS NORTHWARDS—CONTINUE TO ADVANCE—SUFFERINGS OF THE HORSE — CROSS THE 28TH PARALLEL — REJOIN MR. STUART — JOURNEY TO THE WESTWARD—CHARACTER OF THE COUNTRY—FIND TWO PONDS OF WATER—THE GRASSY PARK—RETURN TO THE RANG — EXCESSIVE HEAT — A SINGULAR GEOLOGICAL FEATURE—REGAIN THE DEPÔT.

As the reader will have learnt from what I have stated at the conclusion of the last chapter, we pitched our tents at the place to which I have led him, and which I shall henceforth call the "Depôt," on the 27th of January, 1845. They were not struck again until the 17th of July following.

This ruinous detention paralyzed the efforts and enervated the strength of the expedition, by constitutionally affecting both the men and animals, and depriving them of the elasticity and energy with which they commenced their labours. It was not however until after we had run down every creek in

our neighbourhood, and had traversed the country in every direction, that the truth flashed across my mind, and it became evident to me, that we were locked up in the desolate and heated region, into which we had penetrated, as effectually as if we had wintered at the Pole. It was long indeed ere I could bring myself to believe that so great a misfortune had overtaken us, but so it was. Providence had, in its allwise purposes, guided us to the only spot, in that wide-spread desert, where our wants could have been permanently supplied, but had there stayed our further progress into a region that almost appears to be forbidden ground. The immediate effect, however, of our arrival at the Depôt, was to relieve my mind from anxiety as to the safety of the party. There was now no fear of our encountering difficulties, and perhaps perishing from the want of that life-sustaining element, without which our efforts would have been unavailing, for independently of the beautiful sheet of water, on the banks of which the camp was established, there was a small lagoon to the S.E. of us, and around it there was a good deal of feed, besides numerous water-holes in the rocky gully. The creek was marked by a line of gum-trees, from the mouth of the glen to its junction with the main branch, in which, excepting in isolated spots, water was no longer to be found. The Red Hill (afterwards called Mount Poole), bore N.N.W. from us, distant $3\frac{1}{2}$ miles; between us and it there were undulating plains, covered with stones

or salsolaceous herbage, excepting in the hollows, wherein there was a little grass. Behind us were level stony plains, with small sandy undulations, bounded by brush, over which the Black Hill, bearing S.S.E. from the Red Hill, was visible, distant 10 miles. To the eastward the country was, as I have described it, hilly. Westward at a quarter of a mile the low range, through which Depôt Creek forces itself, shut out from our view the extensive plains on which it rises. This range extended longitudinally nearly north and south, but was nowhere more than a mile and a half in breadth. The geological formation of the range was slate, traversed by veins of quartz, its interstices being filled with magnesian limestone. Steep precipices and broken rugged gullies alternated on either side of this creek, and in its bed there were large slabs of beautiful slate. The precipices shewed the lateral formation with the rock split into the finest laminæ, terminating in sharp points. But neither on the ranges or on the plains behind the camp was there any feed for the cattle, neither were the banks of the creek or its neighbourhood to be put in comparison with Flood's Creek in this respect, for around it there was an abundance as well as a variety of herbage. Still the vegetation on the Depôt Creek was vigorous, and different kinds of seeds were to be procured. I would dwell on this fact the more forcibly, because I shall, at a future stage of this journey, have to remark on the state of the vegetation at this very

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Milvus affinis Gould.

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spot, that is to say, when the expedition was on its return from the interior at the close of the year.

A few days after we had settled ourselves at the Depôt, Mr. Browne had a serious attack of illness, that might have proved fatal; but it pleased God to restore him to health and reserve him for future usefulness. At this time, too, the men generally complained of rheumatism, and I suspected that I was not myself altogether free from that depressing complaint, since I had violent pains in my hip joints; but I attributed them to my having constantly slept on the hard ground, and frequently in the bed of some creek or other. It eventually proved, however, that I had been attacked by a more fearful malady than rheumatism in its worst stage.

There being no immediate prospect of our removal, I determined to complete the charts up to thepoint to which we had penetrated. I therefore sent Mr. Stuart, on the 2nd February, to sketch in the ranges to the eastward, and connect them with the hills I had lately crossed over. I directed Lewis, who had been in the survey, to assist Mr. Stuart, and sent Flood with them to trace down the creek I had noticed from several of our stations on the northern ranges, as passing through a gap in the hills to the eastward. They returned to the camp on the 4th, Mr. Stuart having been very diligent in his work. Flood had also obeyed my orders; but could find no water in the lower branches of the creek, although there was so much in it nearer the hills.

The party had fallen in with a small tribe of natives, for whom Flood had shot an emu. Mr. Stuart informed me that they were very communicative; but their language was unknown to him. He understood from them that they intended to visit the camp in a couple of days; but as I had some doubts on this head, and was anxious to establish a communication, and induce them to return with me to the camp, I rode on the 5th with Mr. Browne across the plain, at the farther extremity of which they were encamped near a little muddy puddle. Flood and Joseph in the light cart accompanied us.

Great as the heat had been, it appeared rather to increase than diminish. The wind constantly blew from the E.S.E. in the morning, with the deep purple tint to the west I have already had occasion to notice. It then went round with the sun, and blew heavily at noon; but gradually subsided to a calm at sunset, and settled in the west, the same deep tint being then visible above the eastern horizon which in the morning had been seen in the west. The thermometer ranged from 100° to 117° in the shade at 3 P.M.; the barometer from 29.300° to 29.100°. Water boiled at 211° and a fraction; but there was no dew point. I should have stated, that both whilst Mr. Browne and I were in the hills and at the camp, there was thunder and rain on the 23rd, 24th, and 25th, but the showers were too light even to lay the dust, and had no effect whatever on the temperature.

The morning we started to pay a visit to the blacks was more than usually oppressive even at daybreak, and about 9 it blew a hot wind from the N.E. As we rode across the stony plain lying between us and the hills, the heated and parching blasts that came upon us were more than we could bear. We were in the centre of the plain, when Mr. Browne drew my attention to a number of small black specks in the upper air. These spots increasing momentarily in size, were evidently approaching us rapidly. In an incredibly short time we were surrounded by several hundreds of the common kite, stooping down to within a few feet of us, and then turning away, after having eyed us steadily. Several approached us so closely, that they threw themselves back to avoid contact, opening their beaks and spreading out their talons. The long flight of these birds, reaching from the ground into the heavens, put me strongly in mind of one of Martin's beautiful designs, in which he produces the effect of distance by a multitude of objects gradually vanishing from the view. Whatever the reader may think, these birds had a most formidable aspect, and were too numerous for us to have overpowered, if they had really attacked us. That they came down to see what unusual object was wandering across the lonely deserts over which they soar, in the hope of prey, there can be no doubt; but seeing that we were likely to prove formidable antagonists, they wheeled from us in extensive sweeps, and were soon lost to view in the lofty region from whence they had descended.

When we reached the place where the natives had been, we were disappointed in not finding them. They had, however, covered up their fires and left their nets, as if with the intention of returning. Nevertheless we missed them, and reached the tents late in the evening, after a ride of 40 miles.

After my return from this excursion, I was busily employed filling-in the charts; but the ink in our pens dried so rapidly, that we were obliged to have an underground room constructed to work in, and it proved of infinite service and comfort, insomuch that the air in it was generally from 7° to 8° cooler than that of the outer air.

Our observations and lunars placed us in latitude 29° 40′ 14″ S., and in longitude 141° 30′ 41″ E. Mount Hopeless, therefore, bore N.N.W. of us, as we were still 25 miles to the south of it, the difference of longitude being about 171 miles, and our distance from the eastern shore of Lake Torrens about 120. The result of our lunars, however, placed us somewhat to the westward of the longitude I have given; and when I came to try my angles back from the Depôt to Williorara, I found that they terminated considerably to the westward of Sir Thomas Mitchell's position there. My lunars at Williorara, however, had not been satisfactory, and I therefore gave that officer credit for correctness, and in the first chart I transmitted to the Secretary of State assumed his position to be correct. There was a small range, distant about 20 miles to the westward of the stony

range connected with the Depôt Creek. It struck me that we might from them obtain a distant view of Mount Serle, or see some change of country favourable to my future views. Under this impression, I left the camp on the 7th of the month, with Mr. Poole and two of the men. The ranges were at a greater distance than I had imagined, but were of trifling elevation, and on arriving at them I found that the horizon to the westward was still closed from my view, by rising ground that intervened. I should have pushed on for it, but Mr. Poole was unfortunately taken ill, and I felt it necessary to give him my own horse, as having easier paces than the one he was riding. It was with difficulty I got him on his way back to the camp as far as the upper waterhole, just outside the Rocky Glen, at which we slept, and by that means reached the tents early on the following morning. I had anticipated rain before we should get back, from the masses of heavy clouds that rose to the westward, after the wind, which had been variable, had settled in that quarter; but they were dispersed during the night, and the morning of the 8th was clear and warm. We had felt it exceedingly hot the day we left the camp—there the men were oppressed with intolerable heat, the thermometer having risen to 112° in the shade. We had not ourselves felt the day so overpowering, probably because we were in motion, and it is likely that a temporary change in the state of the atmosphere, had influenced the temperature, as the eastern

horizon was banded by thunder clouds, though not so heavy as those to the westward, and there was a good deal of lightning in that quarter.

I have said that I was not satisfied with the result of my last excursion with Mr. Browne to the north. I could not but think that we had approached to within a tangible distance of an inland sea, from the extreme depression and peculiar character of the country we traversed. I determined, therefore, to make another attempt to penetrate beyond the point already gained, and to ascertain the nature of the interior there; making up my mind at the same time to examine the country both to the eastward and westward of the northern ranges before I should return to the camp. Mr. Poole and Mr. Browne being too weak to venture on a protracted excursion of such a kind, I took Mr. Stuart, my draftsman, with me. I should have delayed this excursion for a few days, however, only that I feared the total failure of the creeks in the distant interior; I proposed, in the first place, to make for the last and most distant water-hole in the little creek beyond the ranges. Thence to take the light cart with one horse, carrying as much water as he could draw, and with one man, on foot, to pursue a due north course into the brush. I hoped by this arrangement to gain the 27th parallel, and in so doing to satisfy myself as to the point on which I was so anxious. I selected a fine young lad to accompany me, named Joseph Cowley, because I felt some confidence in his moral

courage in the event of any disaster befalling us. On this occasion I had the tank reconstructed, and took all the barrels I could, to enable me to go as far as possible, and the day after I returned to the camp with Mr. Poole, again left it with Mr. Stuart, Joseph, and Flood, in whose charge I intended to leave my horse during my absence—during which I also proposed that Mr. Stuart should employ his time tracing in the hills.

We reached the muddy creek at the foot of the hills at 2 P. M., after a ride of 25 miles, over the stony and barren plains I have described, and as the distance to the next water was too great for us to attempt reaching it until late, we stopped here for the night. Some natives had been on the creek in the early part of the day, and had apparently moved down it to the eastward. The water had diminished fearfully since the time we passed on our return from the north.

The day was cool and pleasant, as the wind blew from the south, and the thermometer did not rise above 95°.

We had not ridden four miles on the following morning, when we observed several natives on the plain at a little distance to the south, to whom we called out, and who immediately came to us. We stopped with these people for more than two hours, in the hope that we should gain some information from them, either as to when we might expect rain, or of the character of the distant interior, but

they spoke a language totally different from the river tribes, although they had some few words in common, so that I could not rely on my interpretation of what they said. They were all of them circumcised, and all but one wanted the right front tooth of the upper jaw. When we left these people I gave them a note for Mr. Poole, in the faint hope that they would deliver it, and I explained to them that he would give them a tomahawk and blankets, but, as I afterwards learnt, they never went to the camp.

When Mr. Browne and I were in this neighbourhood before, he had some tolerable sport shooting the new pigeon, the flesh of which was most delicious. At that time they were feeding upon the seed of the rice grass, and were scattered about, but we now found them, as well as many other birds, congregated in vast numbers preparing to migrate to the north-east, apparently their direct line of migration; they were comparatively wild, so that our only chance of procuring any was when they came to water.

On the 9th we slept at the water in the creek at the top of the ranges; but, on the 10th, instead of going through the pass, and by the valley, under the two little peaks, through which we had entered the plains on the first journey, we now turned to the westward in order to avoid that rugged line, and discovered that the creek, instead of losing itself in the flat to the eastward, continued on a

westerly course to our left; for being attracted by a flight of pigeons, wheeling round some gum-trees, we might otherwise have overlooked it; I sent Flood to examine the ground, who returned with the pleasing information that the creek had reformed, and that there was a pool of water under the trees, nearly as large as the one we had just left.

I was exceedingly pleased at this discovery and determined to send Mr. Stuart back to it, as it would place him nearer his work. We reached the farthest water, from which we had the second time driven the poor native, late in the afternoon, and on examining the hut, found he had ventured back to it and taken away his traps; but the water in the creek was almost dried up; thick, muddy, and putrid, we could hardly swallow it, and I regretted that we had not brought water with us from the hills, but I had been influenced by a desire to spare my poor horse, as I knew the task that was before him, although the poor brute was little aware of it. About sunset an unfortunate emu came to water, and unconsciously approached us so near that Flood shot it with his fusee. This was a solitary wanderer, for we had seen very few either of these birds or kangaroos in these trackless solitudes.

On the morning of the 10th we were up early, and had loaded the cart with 69 gallons of water before breakfast, when Joseph and I took our departure, and Mr. Stuart with Flood returned to the hills. I had selected one of our best horses for this

journey, an animal I had purchased from Mr. Frew of Adelaide. He was strong, powerful, and in good condition, therefore well qualified for the journey. I had determined on keeping a general north course, but in the kind of country in which I soon found myself it was impossible to preserve a direct line. At about four miles from the creek the brush became thick, and the country sandy, and at six miles the sand ridges commenced. Wishing to ease the horse as much as possible, Joseph endeavoured to round them by keeping on the intervening flats, but this necessarily lengthened the day's journey, and threw me more to the eastward than I had intended. A noon I halted for two hours, and then pushed on, the day being cool, with the wind as it had been for the last three or four days from the south. Had the country continued as it was, we might have got on tolerably, but as we advanced it changed greatly for the worse. We lost the flats, on a general coating of sand thickly matted with spinifex, through which it was equally painful to ourselves and poor Punch to tread. We crossed small sandy basins or hollows, and were unable to see to any distance. The only trees growing in this terrible place were a few acacias in the hollows, and some straggling melaleuca, with hakeæ and one or two other common shrubs, all of low growth; there was no grass, neither were the few herbs that grew on the hollows such as the horse would eat. We stopped a little after sunset, having journeyed about 22 miles, on a small flat on

which there were a few acacias, and some low silky grass as dry as a chip, so that if we had not been provident in bringing some oats poor Punch would have gone without his supper. A meridian altitude of Capella placed us in lat. 28° 41′ 00″. Our longitude by account being 141° 15′ E. When I rose at daylight on the following morning, I observed that the horse had eaten but little of the dry and withered food on which he had been tethered; however, in consequence of our tank leaking, I was enabled to give him a good drink, when he seemed to revive, but no sooner commenced pulling than he perspired most profusely. We kept a more regular course than on the previous day, over a country that underwent no change. Before we started I left a nine gallon cask of water in a small flat to ease the horse, and as the water in the tank had almost all leaked out, his load was comparatively light. Still it was a laborious task to draw the cart over such a country. Fortunately for us the weather was cool, as the wind continued south, for I do not know what we should have done if we had been exposed to the same heat Mr. Browne and myself had experienced on our return from the little stony ranges now about 10 miles to the westward of us. A little before noon the wind shifted to the N.E.; I had at this time stopped to rest the horse, but we immediately experienced a change of temperature, and the thermometer which stood at 81° rose before we again started to 93°, and at half-past three had attained 119°. We were then

in one of the most gloomy regions that man ever traversed. The stillness of death reigned around us, no living creature was to be heard; nothing visible inhabited that dreary desert but the ant, even the fly shunned it, and yet its yielding surface was marked all over with the tracks of native dogs.

We started shortly after noon, and passed a pointed sand-hill, from whence we could not only see the stony range but also the main range of hills. The little peak on which Mr. Browne and I took bearings on our last journey bore 150°, the pass through which we had descended into the plains 170°, when I turned however to take bearings of the stony range it had disappeared, having been elevated by refraction above its true position. It bore about N.W. ½ W., distant from eight to nine miles. It was again some time after sunset before we halted, on a small flat that might contain two or at the most three acres. There was some silky grass upon it, but this I knew the horse would not eat, neither had I more than a pint of oats to give him. Our latitude here was 28° 22′ 00″.

On the morning of the 13th we still pushed on, leaving, as before, a cask of water to pick up on our return. I had been obliged to limit the horse to six gallons a day, but where he had been in the habit of drinking from 25 to 30, so small a quantity would not suffice. We had not gone many miles when he shewed symptoms of exhaustion, and rather tottered than walked. He took no pains to avoid anything, but threw Joseph into every bush

he passed. The country still continued unchanged, sand and spinifex were the universal covering of the land, and only round the edges of the little flats were a few stunted shrubs to be seen. It was marvellous to me that such a country should extend to so great a distance without any change. I could at no time see beyond a mile in any direction. Several flights of parrots flew over our heads to the north-west, at such an elevation as led me to suppose they would not pitch near us; but not a bird of any kind did we see in the desert itself. The day being exceedingly hot I stopped at one, rather from necessity than inclination, having travelled 12 or 14 miles. Both Joseph and myself had walked the whole way, and our legs were full of the sharp ends of the spinifex, but it was more in mercy to poor Punch than to ourselves that I pulled up, and held a consultation with Joseph as to the prudence of taking the cart any further, when it was decided that our doing so would infallibly lead to Punch's destruction. According to my calculation we were now in latitude 28° 9′ 00″ or thereabouts. I had hoped to have advanced some 60 miles beyond this point, but now found that it would be impossible to do so. There was no indication of a change of country from any rising ground near us, and as it was still early in the day I resolved on pushing forward until I should feel satisfied that I had passed into the 27th parallel; my reason for this being a desire to know what the character of the country, so far in the interior from, and in the same parallel as Moreton Bay, would be.

I had intended tethering Punch out, and walking with Joseph, but as he remonstrated with me, and it did not appear that my riding him would do the horse any harm, I mounted, though without a saddle, and taking our guns, with a quart of water, we commenced our journey. We moved rapidly on, as I was anxious to return to the cart whilst there was yet daylight, to enable us to keep our tracks, but no material change took place in the aspect of the country. We crossed sand-ridge after sand-ridge only to meet disappointment, and I had just decided on turning, when we saw at the distance of about a quarter of a mile from us, a little rounded hill some few feet higher than any we had ascended. It was to little purpose however that we extended our ramble to it. At about a mile from where we left the cart, we had crossed two or three small plains, if pieces of ground not a quarter of a mile long might be so termed, on which rhagodia bushes were growing, and I had hoped that this trifling change would have led to a greater, but as I have stated such did not prove to be the case. From the top of the little hill to which we walked (and from which we could see to a distance of six or eight miles, but it was difficult to judge how far the distant horizon was from us), there was no apparent change, but the brush in the distance was darker than that nearer to us, as if plains succeeded the sandy desert we had passed over. The whole landscape however was one of the most gloomy character, and I found myself obliged to turn from it in disappointment. As far

as I could judge we passed about a mile beyond the 28th parallel. Our longitude by account only being 141° 18′ E. The boiling point of water was 211° $\frac{75}{100}$. The evening had closed in before we got back to the cart, but our course was fortunately true, and having given poor Punch as liberal a draught as reason would justify we laid down to rest.

It was with great difficulty that we got our exhausted animal on, the following morning, although I again gave him as much water as I could spare. His docility under urgent want of food was astonishing. He was in fact troublesomely persevering, and walked round and round the cart and over us as we sat drinking our tea, smelling at the casks, and trying to get his nose into the bung holes, and implored for relief as much as an animal could do so by looks. Yet I am satisfied that a horse is not capable of strong attachment to man, but that he is a selfish brute, for however kindly he may be treated, where is the horse that will stay, like the dog, at the side of his master to the last, although hunger and thirst are upon him, and who, though carnivorous himself, will yet guard the hand that has fed him and expire upon its post? but, turn the horse loose at night, and where will you find him in the morning, though your life depended on his stay?

We reached the creek on the morning of the 14th, about half-past 10, having still a gallon of water remaining, that was literally better than the water in the muddy puddle from which we had originally

taken it. I had thought it probable that we might find either Flood or Mr. Stuart awaiting our return, but not seeing any trace of recent feet I concluded they were in the ranges, and as the distance was too great for the horse to travel in a day, in his exhausted state, I pushed on at 4 P.M., and halted on the plains after having ridden about 6 miles. It was well indeed that I did so, for we did not gain the ranges until near sunset on the following day. Our exhausted horse could hardly drag one leg after the other, although he pricked up his ears and for a time quickened his pace as he fell into the track of the cart coming out. Both Mr. Stuart and Flood were astonished at the manner in which he had fallen off, nor did he ever after recover from the effects of that journey.

Mr. Stuart had completed his work with great accuracy, and had filled in the chart so much that he saved me a good deal of trouble. The 16th being Sunday, was a day of rest to us all, but one of excessive heat. Mr. Stuart had stationed himself in the bed of the creek, which sloped down on either side, and was partially shaded by gum-trees. The remains of what must have been a fine pond of water occupied the centre, and although it was thick and muddy it was as nectar to myself and Joseph. I was surprised and delighted to see that the creek had here so large a channel, and Flood, who had ridden down it a few miles, assured me that it promised very well. During my absence he had shot at and wounded one of the new pigeons, which afterwards reached my house alive.

I had intended proceeding to the eastward on my return from the north, but was prevented by the total failure of water. I therefore determined to trace the creek down, in the hope that it would favour my advance with the party into the interior. On the 17th, therefore, leaving Joseph to take care of Punch, I mounted my horse, and with Mr. Stuart and Flood, rode away to the westward. At first the creek held a course between S. W. and W. S. W. occasionally spreading over large flats, but always reforming and increasing in size. It ran through a flat valley, bounded by sand hills, against which it occasionally struck. The soil of the valley was not bad, but there was little or no

vegetation upon it. At 15 miles we arrived at the junction of another creek from the south, and running down their united channels, at three miles found a small quantity of water in a deep and shaded hollow. It was but a scanty supply however, yet being cleaner and purer than any we had for some time seen, I stopped and had some tea. There was a native's hut on the bank, from which the owner must have fled at our approach; it was quite new, and afforded me shelter during our short halt. The fugitive had left some few valuables behind him, and amongst them a piece of red ochre. From this point the creek trended more to the north, spreading over numerous flats in times of flood, dividing its channels into many smaller ones, but always uniting into one at the extremity of the flats. At 21 miles the creek changed its course to 20° to the west of north, and the country became more open and level. There were numerous traces of natives along its banks, and the remains of small fires on either side of it as far as we could see. It was, therefore, evident that at certain seasons of the year they resorted to it in some numbers, and I was then led to hope for a favourable change in the aspect of the country.

The gum-trees as we proceeded down the creek increased in size, and their foliage was of a vivid green. The bed of the creek was of pure sand, as well as the plains through which it ran, although there was alluvial soil partially mixed with the sand, and they had an abundance of grass upon

them, the seed having been collected by the natives for food. At about 14 miles from the place where we stopped, the creek lost its sandy bed, and got one of tenacious clay. We soon afterwards pulled up for the night, at two pools of water that were still of considerable size, and on which there were several new ducks. They must, indeed, have been large deep ponds not many weeks before, but had now sunk several feet from their highest level, and, however valuable to a passing traveller, were useless in other respects, as our cattle would have drained them in three or four days. From this place also the natives appeared to have suddenly retreated, since there was a quantity of the Grass* spread out on the sloping bank of the creek to dry, or ripen in the sun. We could not, however, make out to what point they had gone. The heat during the day had been terrific, in so much that we were unable to keep our feet in the stirrups, and the horses perspired greatly, although never put out of a walk.

It was singular that we had no moisture on our skin; the reason why, perhaps, we were at that time much distressed by violent headaches.

At about a quarter of a mile below the ponds the creek spreads over an immense plain, almost as large as that of Cawndilla. A few trees marked its course to a certain distance, but beyond them all trace of its channel was lost, nor was it possible from the centre of the plain to judge at what point

* "*Panicum lævinode*" of Dr. Lindley.

its waters escaped. The plain was surrounded by sand hills of about thirty feet in elevation, covered with low scrub. When we started in the morning we crossed it on a west course, but saw nothing to attract our notice from the tops of the sand hills. We then turned to the northward, and at about two miles entered a pretty, well wooded, but confined valley, in the bottom of which we once more found ourselves on the banks of the creek. Running it down in a north-west direction for seven miles, we were at length stopped by a bank of white saponaceous clay, crossing the valley like a wall. As we rode down the creek we observed large plains of red soil, precisely similar to the plains of the Darling, receding from it to a great distance on either side. These plains had deep water-worn gutters leading into the valley, so that I conclude the lateral floods it receives are as copious as those from the hills. On arriving at the bank running across the channel there were signs of eddying waters, as if those of the creek had been thrown back; but there was a low part in the bank over which it is evident they pour when they rise to its level. Mr. Stuart and Flood were the first to ascend the bank, and both simultaneously exclaimed that a change of country was at hand. On ascending the bank myself, I looked to the west and saw a beautiful park-like plain covered with grass, having groups of ornamental trees scattered over it. Whether it was the suddenness of the change, from barrenness and sterility to verdure and richness, I know not; but I thought,

when I first gazed on it, that I never saw a more beautiful spot. It was, however, limited in extent, being not more than eight miles in circumference. Descending from the bank we crossed the plain on a south course. It was encircled by a line of gum-trees, between whose trunks the white bank of clay was visible. We crossed the plain amidst luxuriant grass; but the ground was rotten, and the whole area was evidently subject to flood. It was also clear that the creek exhausted itself in this extensive basin, from which, after the strictest search, we could find no outlet. On reaching the southern extremity of the plain, we crossed a broad bare channel, having a row of gum-trees on either side, and ascending a continuation of the clay bank, at once found ourselves in the scrub and amidst barrenness again; and at less than a mile, on a north-west course, beheld the sand ridges once more rising before us. I continued on this course, however, for eight miles, when I turned to the north-east, in order to cut any watercourse that might be in that direction, and to assure myself of the failure of the creek. After riding for five miles, I turned to the south, with the intention of ascending a sand hill at some distance, that swept the horizon in a semicircular form and was much higher than any others. Mr. Poole had informed me that he noticed a similar bank just before he made Lake Torrens, and I was anxious to see if it hid any similar basin from my view; but it did not. Sand hills of a similar kind succeeded it to

the westward, but there was no change of country. Although we had travelled many miles, yet the zigzag course we had taken had been such that at this point we were not more than sixteen miles from the pools we had left in the morning; and as the day had been intolerably hot, and we had found no water, I determined on returning to them; but I was obliged to stop for a time for Flood, who complained of a violent pain in his head, occasioned by the intense heat. There was no shelter, however, for him under the miserable shrubs that surrounded us; but I stopped for half an hour, during which the horses stood oppressed by languor, and without the strength to lift up their heads, whilst their tails shook violently. Being anxious to get to water without delay, I took a straight line for the water-holes, and reached them at half-past 6 P.M., after an exposure, from morning till night, to as great a heat as man ever endured; but if the heat of this day was excessive, that of the succeeding one on which we returned to Joseph was still more so. We reached our destination at 3 P.M., as we started early, and on looking at the thermometer fixed behind a tree about five feet from the ground, I found the mercury standing at 132°; on removing it into the sun it rose to 157°. Only on one occasion, when Mr. Browne and I were returning from the north, had the heat approached to this; nor did I think that either men or animals could have lived under it.

On the 20th we again crossed the ranges, and after a journey of 32 miles, reached the lateral creek at their southern extremity, where I had rested on my former journey. There was more water in it than I expected to have found; but it was nevertheless much reduced, and in a week afterwards was probably dry. On the 21st we gained the Muddy Creek, but had to search for water where only a few days before there had been a pond of more than a third of a mile in length. Here, on the following day, I was obliged to leave Flood and Joseph, as the wheels of the cart had shrunk so much that we could not take it on. I should have gained the camp early in the day, but turned to the eastward to take bearings from some hills intermediate between Mount Poole and the Northern Range, as the distance between these points was too great. Our ride was over a singularly rugged country, of equally singular geological formation, nor can I doubt but that at one time or other there were currents sweeping over it in every direction. At one place that we passed there was a broad opening in a rocky but earth-covered bank. Through this opening the eye surveyed a long plain, which at about two miles was bounded by low dark hills. Along this plain the channel of a stream was as distinctly marked in all its windings by small fragments of snow-white quartz as if water had been there instead. On either side the landscape was dark; but the effect was exceedingly striking and unusual. From the hills we

ascended I obtained bearings to every station of consequence, and was quite glad that I had thus turned from my direct course. It was dark, the night indeed had closed in before we reached the tents; but I had the satisfaction to learn that both Mr. Poole and Mr. Browne were better, though not altogether well, and that every thing had gone on regularly during my absence. On the following morning, I sent Lewis and Jones with a dray to fetch the cart, and for the next three or four days was occupied charting the ground we had travelled over.

The greatest distance I went northwards on this occasion was to the 28th parallel, and about 17 miles to the eastward of the 141st meridian. Our extreme point to the westward being lat. 28° 56′, and long. 140° 54′. From what I have said, the reader will be enabled to judge what prospects of success I had in either quarter; for myself I felt that I had nothing to hope either in the north or the east; for even if I had contemplated crossing eastward to the Darling, which was more than 250 miles from me, the dreadful nature of the country would have deterred me; but such an idea never entered my head—I could not, under existing circumstances, have justified such a measure to myself; having therefore failed in discovering any change of country, or the means of penetrating farther into it, I sat quietly down at my post, determined to abide the result, and to trust to the goodness of Providence to release me from prison when He thought best.

CHAPTER VII.

MIGRATION OF THE BIRDS—JOURNEY TO THE EASTWARD—FLOODED PLAINS—NATIVE FAMILY—PROCEED SOUTH, BUT FIND NO WATER—AGAIN TURN EASTWARD—STERILE COUNTRY—SALT LAGOON—DISTANT HILLS TO THE EAST—RETURN TO THE CAMP—INTENSE HEAT—OFFICERS ATTACKED BY SCURVY—JOURNEY TO THE WEST—NO WATER—FORCED TO RETURN—ILLNESS OF MR. POOLE—VISITED BY A NATIVE—SECOND JOURNEY TO THE EASTWARD—STORY OF THE NATIVE—KITES AND CROWS—ERECT A PYRAMID ON MOUNT POOLE—PREPARATIONS FOR A MOVE—INDICATIONS OF RAIN—INTENSE ANXIETY—HEAVY RAIN—MR. POOLE LEAVES WITH THE HOME RETURNING PARTY—BREAK UP THE DEPÔT—MR. POOLE'S SUDDEN DEATH—HIS FUNERAL—PROGRESS WESTWARD—THE JERBOA—ESTABLISHMENT OF SECOND DEPÔT—NATIVE GLUTTONY—DISTANT MOUNTAINS SEEN—REACH LAKE TORRENS—EXAMINATION OF THE COUNTRY N.W. OF IT—RETURN TO THE DEPÔT—VISITED BY NATIVES—PREPARATIONS FOR DEPARTURE AGAIN INTO THE NORTH-WEST INTERIOR.

THE three last days of February were cool in comparison to the few preceding ones. The wind was from the south, and blew so heavily that I anticipated rough weather at the commencement of March. But that rough month set in with renewed heat, consequent on the wind returning to its old quarter the E.S.E. There were however some heavy clouds floating about, and from the closeness of the atmosphere I hoped that rain would have fallen, but

all these favourable signs vanished, the thermometer ascending to more than 100°.

When we first pitched our tents at the Depôt the neighbourhood of it teemed with animal life. The parrots and paroquets flew up and down the creeks collecting their scattered thousands, and making the air resound with their cries. Pigeons congregated together; bitterns, cockatoos, and other birds; all collected round as preparatory to migrating. In attendance on these were a variety of the Accipitrine class, hawks of different kinds, making sad havoc amongst the smaller birds. About the period of my return from the north they all took their departure, and we were soon wholly deserted. We no longer heard the discordant shriek of the parrots, or the hoarse croaking note of the bittern. They all passed away simultaneously in a single day; the line of migration being directly to the N.W., from which quarter we had small flights of ducks and pelicans.

On the 5th of March I sent Mr. Browne to the S.W., to a small creek similar to that in the Rocky Glen and in the same range, in the hope that as we had seen fires in that direction he might fall in with the natives, but he was unsuccessful.

On the 6th I sent Flood to the eastward to see if he could recover the channel of the main creek on the other side of the plain on which Mr. Poole had lost it; he returned the following day, with information that at 25 miles from the Depôt he had recovered it, and found more water than he could have supposed. The day of Flood's return was

exceedingly hot and close, and in the evening we had distant thunder, but no rain.

In consequence of his report, I now determined on a journey to the eastward to ascertain the character of the country between us and the Darling, and left the camp with this intention on the 12th instant. I should have started earlier than that day had not Mr. Poole's illness prevented me, but as he rallied, I proceeded on my excursion, accompanied by Mr. Browne, Flood, and another of the men. We observed several puddles near our old camp on the main creek as we rode away, so that rain must have fallen there though not at the Depôt. After passing the little conical hill, of which I have already spoken, we traced the creek down until we saw plains of great extent before us, and as the creek trended to the south, skirting them on that side, we rode across them on a bearing of 322° or N.W.$\frac{1}{2}$ N. They were 7 or 8 miles in breadth, and full 12 miles in length from east to west; their soil was rich and grassed in many places. At the extremity of the plains was a sand hill, close to which we again came on the creek, but without water, that which Flood had found being a little more to the eastward. Its channel at this place was deep, shaded, and moist, but very narrow. I was quite surprised when we came to the creek where Flood had been to find so much water; there was a serpentine sheet, of more than a quarter of a mile in length, which at first sight appeared to be as permanent as that at the Depôt. The banks were high and composed of

light rich alluvial soil, on which there were many new shrubs growing; the whole vegetation seemed to be more forward on this side of the hills than on that where the Depôt was. Just as we halted we saw a small column of smoke rise up due south, and on looking in that direction observed some grassy plains spreading out like a boundless stubble, the grass being of the kind from which the natives collect seed for subsistence at this season of the year.

Early on the morning of the 14th March we again saw smoke in the same direction as before, but somewhat to the eastward, as if the grass or brush had been fired. In hopes that we should come upon some of the natives on the plains, through which the creek appeared to run, I determined on examining them before I proceeded to the eastward. We accordingly crossed its channel when we mounted our horses after breakfast, and rode at some little distance from it on a course of 80° or nearly east, over flooded lands of somewhat sandy soil, covered with different kinds of grass, of which large heaps that had been thrashed out by the natives were piled up like hay cocks. At about two and a half miles we ascended a sandy rise of about fifty feet in elevation, whence we obtained bearings of the little conical hill at the western termination of the plain, and of the hill we had called the Black Hill. These bearings with our latitude made the distance we had travelled 33 miles. From the sand hill we overlooked plains of great extent to the N.E.; partly grassed and partly bare, but to the eastward there was low

brush and a country similar to that we had traversed before the commencement of the sandy ridges. There were low sandy undulations to be seen; but of no great height. I now turned for the smoke on a bearing of 187°, or nearly south, traversing a barren sandy level intermediate between the sand hill and the plains now upon our right, at length we entered upon the flooded ground, it was soft and yielding, and marked all over with the tracks of the natives; at 7 miles arrived at a large clump of gum-trees, and under them the channel of the creek which we had lost on the upper part of the plains was again visible. It was here very broad, but quite bare, except a belt of polygonum growing on either side, which had been set on fire, and was now in flames. We were fortunate enough soon after to find a long shallow sheet of water, in the bed of the creek, where we rested ourselves. It was singular enough that we should have pulled up close to the camp of some natives, all of whom had hidden themselves in the polygonum, except an old woman who was fast asleep, but who did not faint on seeing Mr. Browne close to her when she awoke. With this old lady we endeavoured to enter into conversation, and in order to allay her fears gave her five or six cockatoos we had shot, on which two other fair ones crept from behind the polygonum and advanced towards us. Finding that the men were out hunting, and only the women with the children were present, I determined to stop at this place until the following morning, we therefore

unloaded the horses and allowed them to go and feed. A little before sunset, the two men returned to their families. They were much astonished at seeing us quietly seated before their huts, and approached us with some caution, but soon got reconciled to our presence. One of them had caught a talpero and a lizard, but the other had not killed any thing, so we gave him a dinner of mutton. The language of these people was a mixture between that of the river and hill tribes; but from what reason I am unable to say, although we understood their answers to general questions, we could not gather any lengthened information from them. I gave the elder native a blanket, and to the other a knife, with both of which they seemed highly delighted, and in return I suppose paid us the compliment of sending their wives to us as soon as it became dusk, but as we did not encourage their advances they left us after a short visit. The native who had killed the talpero, skinned it the moment he arrived in the camp, and, having first moistened them, stuffed the skin with the leaves of a plant of very astringent properties. All these natives were very poor, particularly the men, nor do I think that at this season of the year they can have much animal food of any kind to subsist on. Their principal food appeared to be seeds of various kinds, as of the box-tree, and grass seeds, which they pound into cakes and bake, together with different kinds of roots.

On the 15th we started at 7 A.M., and crossing at

the head of the water, pursued a south course over extensive flooded plains, on which we again lost the channel of the creek, as, after winding round a little contiguous sand hill, it split into numberless branches; but although the plains hereabouts were well grassed, the soil was not so good as that on the plains above them. At six miles we ascended a sand hill, from which we could see to the extremity of the plain; but it had no apparent outlet excepting to the E.S.E. I therefore proceeded on that course for three miles, when we lost sight of all gum-trees, and found ourselves amongst scrub. Low bushes bounded the horizon all round, and hid the grassy plains from our view; but they were denser to the south and east than at any other point. Mount Lyell, the large hill south, bore 140° to the east of north, distant between forty and fifty miles. A short time after we left the grassy flats we crossed the dry bed of a large lagoon, which had been seen by Mr. Poole on a bearing of 77° from the Magnetic Hill. In the richer soil, a plant with round, striped fruit upon it, of very bitter taste, a species of cucumber, was growing. We next proceeded to the eastward, and surveying the country from higher ground, observed that the creek had no outlet from the plains, and that it could not but terminate on them.

As I had no object in a prolonged journey to the south, I turned back from this station, and retracing my steps to the water where we had left the natives, reached it at half-past six. All our

friends were still there; we had, therefore, the pleasure of passing another afternoon with them, during which they were joined by two other natives, with their families, who had been driven in from the south, like ourselves, by the want of water. They assured us that all the water in that quarter had disappeared, "that the sun had taken it," and that we should not find a drop to the eastward, where I told them I was going. All these men, excepting one, had been circumcised. The single exception had the left fore-tooth of his upper jaw extracted, and I therefore concluded that he belonged to a different tribe. I had hoped to have seen many more natives in this locality; but it struck me, from what I observed, that they were dispersed at the different water-holes, there being no one locality capable of supporting any number.

The low and flooded track I have been describing must be dreadfully cold during the winter season, and the natives, who are wholly unprovided for inclemency of any kind, must suffer greatly from exposure; but at this time the temperature still continued very high, and the constant appearance of the deep purple tint opposite to the rising and setting sun seemed to indicate a continuance of it.

As our horses had had some long journeys for the last three days, we merely returned to our first bivouac on the creek, when we left the natives, with whom we parted on very good terms, and a promise on their part to come and see us. On the

17th started at quarter-past six for the eastward, with as much water as we could carry in the cart, as from the accounts of the natives we scarcely hoped to find any. For the first five miles we kept a course rather to the north of east, nearly E.N.E. indeed, to round some sand-hills we should otherwise have been obliged to cross. There were very extensive plains to our left, on which water must lie during winter; but their soil was not good, or the vegetation thick upon them. We could just see the points of the northern flat-topped ranges beyond them. At five miles we turned due east, and crossed several small plains, separated by sandy undulations, not high enough to be termed ridges; the country, both to the south and east, appearing to be extremely low. At about fifteen miles, just as we were ascending a sand hill, Mr. Browne caught sight of a native stealing through the brush, after whom he rode; but the black observing him, ran away. On this Mr. Browne called out to him, when he stopped; but the horse happening to neigh at the moment, the poor fellow took to his heels, and secreted himself so adroitly, that we could not find him. He must, indeed, have been terribly alarmed at the uncouth sound he heard.

A short time before our adventure with the native we had seen three pelicans coming from the north. They kept very low to the ground, and wheeled along in circles in a very remarkable manner, as if they had just risen from water; but at length they

soared upwards, and flew straight for the lagoon where we had left the natives. With the exception of these three birds, no other was to be seen in those dreary regions. Both Mr. Browne and I, however, rode over a snake, but our horses fortunately escaped being bitten; this animal had seized a mouse, which it let go on being disturbed, and crept into a hole; it was very pretty, being of a bright yellow colour with brown specks. Arriving at the termination of the sand hills, we looked down upon an immense shallow basin, extending to the north and south-east further than the range of vision, which must, I should imagine, be wholly impassable during the rainy season. There was scarcely any vegetation, a proof, it struck me, that it retains water on its surface till the summer is so advanced that the sun's rays are too powerful for any plants that may spring up, or that the heat bakes the soil so that nothing can force itself through. There was little, if any grass to be seen; but the mesembryanthemum reappeared upon it, with other salsolaceous plants. The former was of a new variety, with flowers on a long slender stalk, heaps of which had been gathered by the natives for the seed. Of the timber of these regions there was none; a few gum-trees near the creeks, with box-trees on the flats, and a few stunted acacia and hakea on the small hills, constituted almost the whole. Water boiled on this plain at 212°; that is to say at our camp were we slept, about two

miles advanced into it, but the plain extended about five miles further to the eastward. After crossing this on the following morning, we traversed a country which Mr. Browne informed me was very similar to that near Lake Torrens. It consisted of sand banks, or *drifts*, with large bare patches at intervals: the whole bearing testimony to the violence of the rains that must sometimes deluge it. We then traversed a succession of flats (I call them so because they did not deserve the name of plains) separated from each other by patches of red sand and clay, that were not more than a foot and a half above the surface of the flats. At nine miles the country became covered with low scrub, and we soon after passed the dry bed of a lagoon, about a mile in circumference, on which there was a coating of salt and gypsum resting on soft black mud. About a mile from this we passed a new tree, similar to one we had seen on the Cawndilla plain. From this point the land imperceptibly rose, until at length we found ourselves on some sandy elevations thickly covered with scrub of acacia, almost all dead, but there was a good deal of grass around them, and the spot might at another season, and if the trees had been in leaf, have looked pretty. We pushed through this scrub, the soil being a bright red sand for nine miles, when we suddenly found ourselves at the base of a small stony hill, of about fifty feet in height. From the summit we overlooked the region round about. To the east-

ward, as a medium point, it was covered with a dense scrub, that extended to the base of a range of hills, distant about 33 miles, the extremities of which bore 71° and 152° respectively from us. But although the country under them was covered with brush, the hills appeared to be clear and denuded of brushes of any kind. Our position here was about 138 miles from the Darling, and about 97 from the Depôt. My object in this excursion had been to ascertain the characteristic of the country between us and the Darling, but I did not think it necessary to run any risks with my horses, by pushing on for the hills, as I could not have reached them until late the following day, when in the event of not finding water, their fate would have been sealed; for we could not have returned with them to the creek. They had already been two days without, if I except the little we had spared them from the casks. I had deemed it prudent to send Joseph and Lewis back to the creek for a fresh supply, with orders to return and meet at a certain point, and there to await our arrival, for without this supply I felt satisfied we should have great difficulty as it was in getting our animals back to the creek. We descended from the hill therefore to some green looking trees, of a foliage new to me, to rest for an hour before we turned back again. There were neither flowers or fruit on the trees, but from their leaf and habit, I took them to be a species of the Juglans. At sunset we mounted our horses

and travelled to the edge of the acacia scrub to give our horses some of the grass, and halted in it for the night, but started early on the following morning to meet Joseph. We reached the appointed place, about 10, but not finding him there continued to journey onwards, and at five miles met him. We then stopped and gave the horses 12 gallons of water each, after which we tethered them out, but they were so restless that I determined to mount them, and pushing on reached the creek at half-past 1, A.M. The animals requiring rest I remained stationary the next day, and was myself glad to keep in the shade, not that the day was particularly hot, but because I began to feel the effects of constant exposure. Having expressed some opinion, however, that there might have been water to the north of us, in the direction whence the pelicans came, Mr. Browne volunteered to ride out, and accordingly with Flood left me about 10, but returned late in the afternoon without having found any. He ascertained that the creek I had sent Flood to trace when Mr. Stuart went to sketch in the ranges, terminated in the barren plain we had crossed, and such, the reader will observe, is the general termination of all the creeks of these singular and depressed regions.

We returned to the camp on the 21st, and from that period to the end of the month I remained stationary, employed in various ways. On the 24th and 29th we took different sets of lunars, which

gave our longitude as before, nearly 141° 29′, the variation of the compass being 5° 14′ East.

The month of April set in without any indication of a change in the weather. It appeared as if the flood gates of Heaven were closed upon us for ever. We now began to feel the effects of disappointment, and watched the sky with extreme anxiety, insomuch that the least cloud raised all our hopes. The men were employed in various ways to keep them in health. We planted seeds in the bed of the creek, but the sun burnt them to cinders the moment they appeared above the ground. On the evening of the 3rd there was distant thunder, and heavy clouds to the westward. I thought it might have been that some shower had approached sufficiently near for me to benefit by the surface water it would have left to push towards Lake Torrens, and therefore mounted my horse and rode away to the westward on the 4th, but returned on the night of the 7th in disappointment. Time rolled on fast, and still we were unable to stir. Mr. Piesse, who took great delight in strolling out with my gun, occasionally shot a new bird.

On the 4th the wind blew strong from the south; but although the air was cooled, no rain fell, nor indeed was there any likelihood of rain with the wind in that quarter. Still as this was the first decided shift from the points to which it had kept so steadily, we augured good from it. On the 7th a very bright meteor was seen to burst in the south-east quarter of the heavens; crossing the sky with a

long train of light, and in exploding seemed to form numerous stars. Whether it was fancy or not we thought the temperature cooled down from this period. On this day also we had a change of moon, but neither produced a variation of wind or weather of any immediate benefit to us. On the 14th we tried to ascertain the dew point, but failed, as in previous instances. The thermometer in our underground room stood at 78° of Farenheit, but we could not reduce the moist bulb below 49°; nor was I surprised at this, considering we had not had rain for nearly four months, and that during our stay at the Depôt we had never experienced a dew. The ground was thoroughly heated to the depth of three or four feet, and the tremendous heat that prevailed had parched vegetation and drawn moisture from everything. In an air so rarified, and an atmosphere so dry, it was hardly to be expected that any experiment upon it would be attended with its usual results, or that the particles of moisture so far separated, could be condensed by ordinary methods. The mean of the thermometer for the months of December, January, and February, had been 101°, 104°, and 101° respectively in the shade. Under its effects every screw in our boxes had been drawn, and the horn handles of our instruments, as well as our combs, were split into fine laminæ. The lead dropped out of our pencils, our signal rockets were entirely spoiled; our hair, as well as the wool on the sheep, ceased to grow, and

our nails had become as brittle as glass. The flour lost more than eight per cent of its original weight, and the other provisions in a still greater proportion. The bran in which our bacon had been packed, was perfectly saturated, and weighed almost as heavy as the meat; we were obliged to bury our wax candles; a bottle of citric acid in Mr. Browne's box became fluid, and escaping, burnt a quantity of his linen; and we found it difficult to write or draw, so rapidly did the fluid dry in our pens and brushes. It was happy for us, therefore, that a cooler season set in, otherwise I do not think that many of us could much longer have survived. But, although it might be said that the intense heat of the summer had passed, there still were intervals of most oppressive weather.

About the beginning of March I had had occasion to speak to Mr. Browne as to certain indications of disease that were upon me. I had violent head-aches, unusual pains in my joints, and a coppery taste in my mouth. These symptoms I attributed to having slept so frequently on the hard ground and in the beds of creeks, and it was only when my mouth became sore, and my gums spongy, that I felt it necessary to trouble Mr. Browne, who at once told me that I was labouring under an attack of scurvy, and I regretted to learn from him that both he and Mr. Poole were similarly affected, but they hoped I had hitherto escaped. Mr. Browne was the more surprised at my case, as I was very moderate in my diet, and had taken

but little food likely to cause such a malady. Of we three Mr. Poole suffered most, and gradually declined in health. For myself I immediately took double precautions, and although I could not hope soon to shake off such a disease, especially under such unfavourable circumstances as those in which we were placed, I was yet thankful that I did not become worse. For Mr. Browne, as he did not complain, I had every hope that he too had succeeded in arresting the progress of this fearful distemper. It will naturally occur to the reader as singular, that the officers only should have been thus attacked; but the fact is, that they had been constantly absent from the camp, and had therefore been obliged to use bacon, whereas the men were living on fresh mutton; besides, the same men were seldom taken on a second journey, but were allowed time to recover from the exposure to which they had been subjected, but for the officers there was no respite.

On the 18th the wind, which had again settled in the S.E. changed to the N.E., and the sky became generally overcast. Heavy clouds hung over the Mount Serle chain, and I thought that rain would have fallen, but all these favourable indications vanished before sunset. At dawn of the morning of the 19th, dense masses of clouds were seen, and thunder heard to the west; and the wind shifting to that quater, we hoped that some of the clouds would have been blown over to

us, but they kept their place for two days, and then gradually disappeared. These distant indications, however, were sufficient to rouse us to exertion, in the hope of escaping from the fearful captivity in which we had so long been held. I left the camp on the 21st with Mr. Browne and Flood, thinking that rain might have extended to the eastward from Mount Serle, sufficiently near to enable us to push into the N.W. interior, and as it appeared to me that a W. by N. course would take me abreast of Mount Hopeless, I ran upon it. At 16 miles I ascended a low range, but could not observe anything from it to the westward but scrub. Descending from this range we struck the head of a creek, and at six miles came on the last dregs of a pool of water, so thick that it was useless to us. We next crossed barren stony undulations and open plains, some of them apparently subject to floods; and halted at half-past six, after a journey of between thirty and forty miles without water, and with very little grass for our horses to eat. Although the course we kept, had taken us at times to a considerable distance from the creek, we again came on it before sunset, and consequently halted upon its banks; but in tracing it down on the following morning we lost its channel on an extensive plain, and therefore continued our journey to the westward. At seven miles we entered a dense scrub, and at fifteen ascended a sand hill, from which we expected to have had a more than usually extensive view, but it

was limited to the next sand hill, nor was there the slightest prospect of a change of country being at hand. At four miles from this position we came upon a second creek seemingly from the N.E., whose appearance raised our hopes of obtaining water; but as its channel became sandy, and turned southwards, I left it, and once more running on our old course, pulled up at sunset under a bank of sand, without anything either for ourselves or our horses to drink. During the latter part of the evening we had observed a good deal of grass on the sand hills, nor was there any deficiency of it round our bivouac; but, notwithstanding that there was more than enough for the few horses we had, a herd of cattle would have discussed the whole in a night. It was evident from the state of the ground that no rain had fallen hereabouts, and I consequently began to doubt whether it had extended beyond the mountains. Comparing the appearance of the country we were in, with that through which Mr. Browne passed for 50 miles before he came upon Lake Torrens, and concluding that some such similar change would have taken place here if we had approached within any reasonable distance of that basin, I could not but apprehend that we were still a long way from it.

The horses having refused the water we had found in the creek, I could hardly expect they would drink it on their return, so that I calculated our distance from water at about 68 miles; and I fore-

saw that unless we should succeed in finding some early in the day following, it would be necessary for us to make for the Depôt again. Close to where we stopped there was a large burrow of Talperos, an animal, as I have observed, similar to the rabbit in its habits, and one of which the natives are very fond, as food. The sandy ridges appeared to be full of them, and other animals, that must live for many months at a time without water. Whilst we were sitting in the dusk near our fire, two beautiful parrots attracted by it, I suppose, pitched close to us; but immediately took wing again, and flew away to the N.W. They, no doubt, thought that we were near water, but like ourselves were doomed to disappointment. During the evening also some plovers flew over us, and we heard some native dogs howling to the south-west. At daylight, therefore, we rode in that direction, with the hope of finding the element we now so much required. At three miles a large grassy flat opened out to view upon our right, similar to that at the termination of the Depôt creek. It might have contained 1000 acres, but there was not at the first glance, a tree to be seen upon it This flat was bounded to the S.W. by a sand bank, lying at right angles to the sand ridges we had been crossing. The latter, therefore, ran down upon this bank in parallel lines, some falling short of, and others striking it; so that, as the drainage was towards the embankment, the collected waters lodged against

it. After crossing a portion of the plain we saw some box-trees in a hollow, towards which we rode, and then came upon a deep dry pond, in whose bottom the natives had dug several wells, and had evidently lingered near it as long as a drop of water remained. It was now clear that our further search for water would be useless. I therefore turned on a course of 12° to the north of east for the muddy water we had passed two days before, and halted there about an hour after sunset, having journeyed 42 miles. We fell into our tracks going out about four miles before we halted, and were surprised to observe that a solitary native had been running them down. On riding a little further however, we noticed several tracks of different sizes, as if a family of natives had been crossing the country to the north-west. It is more than probable that their water having failed in the hills, they were on their way to some other place where they had a well.

Although we had ourselves been without water for two days, the mud in the creek was so thick that I could not swallow it, and was really astonished how Mr. Browne managed to drink a pint of it made into tea. It absolutely fell over the cup of the panakin like thick cream, and stuck to the horses' noses like pipe-clay. They drank sparingly however, and took but little grass during the night. As we pursued our journey homewards on the following day, we passed several flights of dotterel making to

the south, this being the first migration we had observed in that direction. These birds were in great numbers on the plains of Adelaide the year preceding, and had afforded good sport to my friend Torrens; we also observed a flight of pelicans, wheeling about close to the ground, as they had before done to the eastward, as well as a flight of the black-shouldered hawks hovering in the air. Our day's ride had been very long and fatiguing, as the horses were tired, but we got relieved by our arrival at the camp a little before sunset on the 25th: and thus terminated another journey in disappointment. We regretted to find that Mr. Poole was seriously indisposed. His muscles were now attacked and he was suffering great pain, but, as the disease appeared inclined to make to the surface, Mr. Browne had some hopes of a favourable change. Both Mr. Browne and myself found that the sameness of our diet began to disagree with us, and were equally anxious for the reappearance of vegetation, in the hope that we should be able to collect sow-thistles or the tender shoots of the rhagodia as a change. We had, whilst it lasted, taken mint tea, in addition to the scanty supply of tea to which we were obliged to limit ourselves, but I do not think it was wholesome.

The moon entered her third quarter on the 27th, but brought no change; on the contrary she chased away the clouds as she rose, and moved through the heavens in unshrouded and dazzling brightness. Sometimes a dark mass of clouds would rise simulta-

neously with her, in the west, but as the queen of night advanced in her upward course they gradually diminished the velocity with which they at first came up; stopped, and fell back again, below the horizon. Not once, but fifty times have we watched these apparently contending forces, but whether I am right in attributing the cause I will not say.

At this time (the end of April) the weather was very fine, although the thermometer ranged high. The wind being steady at south accounted for the unusual height of the barometrical column, which rose to 30.600. On the night of the 20th we had a heavy dew, the first since our departure from the Darling. On the morning of the 28th it thundered, and a dense cloud passed over to the north, the wind was unsteady, and I hoped that the storm would have worked round, but it did not. At ten the wind sprung up from the south, the sky cleared and all our hopes were blighted.

Notwithstanding that we treated the natives who came to the creek with every kindness, none ever visited us, and I was the more surprised at this, because I could not but think that we were putting them to great inconvenience by our occupation of this spot. Towards the end of the month, it was so cold that we were glad to have fires close to our tents. Mr. Poole had gradually become worse and worse, and was now wholly confined to his bed, unable to stir, a melancholy affliction both to himself and us, rendering our detention in that gloomy region still

more painful. My men generally were in good health, but almost all had bleeding at the nose; I was only too thankful that my own health did not give way, though I still felt the scurvy in a mitigated form, but Mr. Browne had more serious symptoms about him.

The 10th of May completed the ninth month of our absence from Adelaide, and still we were locked up without the hope of escape, whilst every day added fresh causes of anxiety to those I had already to bear up against. Mr. Poole became worse, all his skin along the muscles turned black, and large pieces of spongy flesh hung from the roof of his mouth, which was in such a state that he could hardly eat. Instead of looking with eagerness to the moment of our liberation, I now dreaded the consequent necessity of moving him about in so dreadful a condition. Mr. Browne attended him with a constancy and kindness that could not but raise him in my estimation, doing every thing which friendship or sympathy could suggest.

On the 11th about 3 P.M. I was roused by the dogs simultaneously springing up and rushing across the creek, but supposing they had seen a native dog, I did not rise; however, I soon knew by their continued barking that they had something at bay, and Mr. Piesse not long after came to inform me a solitary native was on the top of some rising ground in front of the camp. I sent him therefore with some of the men to call off the dogs, and to bring him

down to the tents. The poor fellow had fought manfully with the dogs, and escâped injury, but had broken his waddy over one of them. He was an emaciated and elderly man, rather low in stature, and half dead with hunger and thirst; he drank copiously of the water that was offered to him, and then ate as much as would have served me for four and twenty dinners. The men made him up a screen of boughs close to the cart near the servants, and I gave him a blanket in which he rolled himself up and soon fell fast asleep. Whence this solitary stranger could have come from we could not divine. No other natives approached to look after him, nor did he shew anxiety for any absent companion. His composure and apparent self-possession were very remarkable, for he neither exhibited astonishment or curiosity at the novelties by which he was surrounded. His whole demeanour was that of a calm and courageous man, who finding himself placed in unusual jeopardy, had determined not to be betrayed into the slightest display of fear or timidity.

From the period of our return from the eastward, I had remained quiet in the camp, watching every change in the sky; I was indeed reluctant to absent myself for any indefinite period, in consequence of Mr. Poole's precarious state of health. He had now used all the medicines we had brought out, and none therefore remained either for him or any one else who might subsequently be taken ill. As however he was better, on the 12th, I determined to make

a second excursion to the eastward, to see if there were any more natives in the neighbourhood of the grassy plains than when I was last there. Wishing to get some samples of wood I took the light cart and Tampawang also, in the hope that he would be of use.

Although the water in the creek had sunk fearfully there was still a month's supply remaining, but if it had been used by our stock it would then have been dry. Close to the spot where we had before stopped, there were two huts that had been recently erected. Before these two fires were burning, and some troughs of grass seed were close to them, but no native could we see, neither did any answer to our call. Mr. Browne, however, observing some recent tracks, ran them down, and discovered a native and his lubra who had concealed themselves in the hollow of a tree, from which they crept as soon as they saw they were discovered. The man, we had seen before, and the other proved to be the frail one who exhibited such indignation at our rejecting her addresses on a former occasion; being a talkative damsel, we were glad to renew our acquaintance with her. We learnt from them that the second hut belonged to an absent native who was out hunting, the father of a pretty little girl who now obeyed their signal and came forth. They said the water on the plain had dried up, and that the only water-holes remaining were to the west, viz. at our camp, and to the south, where they said there were two water-holes. As

they had informed us, the absent native made his appearance at sunset, but his bag was very light, so we once more gave them all our mutton; he proved to be the man Mr. Browne chased on the sand hills, the strongest native we had seen; he wanted the front tooth, but was not circumcised.

In the evening we had a thunder storm, but could have counted the drops of rain that fell, notwithstanding the thunder was loud and the lightning vivid. We returned to the Depôt on the 13th, and on crossing the plain Mr. Browne had well nigh captured a jerboa, which sprang from under my horse's legs, but managed to elude him, and popped into a little hole before he could approach sufficiently near to strike at it. On reaching the tents we had the mortification to find Mr. Poole still worse, but I attributed his relapse in some measure to a depression of spirits. The old man who had come to the camp the day before we left it, was still there, and had apparently taken up his quarters between the cart and my tent. During our absence the men had shewn him all the wonders of the camp, and he in his turn had strongly excited their anticipations, by what he had told them.

He appeared to be quite aware of the use of the boat, intimating that it was turned upside down, and pointed to the N.W. as the quarter in which we should use her. He mistook the sheep net for a fishing net, and gave them to understand that there

were fish in those waters so large that they would not get through the meshes. Being anxious to hear what he had to say I sent for him to my tent, and with Mr. Browne cross-questioned him.

It appeared quite clear to us that he was aware of the existence of large water somewhere or other to the northward and westward. He pointed from W.N.W. round to the eastward of north, and explained that large waves higher than his head broke on the shore. On my shewing him the fish figured in Sir Thomas Mitchell's work he knew only the cod. Of the fish figured in Cuvier's works he gave specific names to those he recognised, as the hippocampus, the turtle, and several sea fish, as the chetodon, but all the others he included under one generic name, that of "guia," fish.

He put his hands very cautiously on the snakes, and withdrew them suddenly as if he expected they would bite him, and evinced great astonishment when he felt nothing but the soft paper. On being asked, he expressed his readiness to accompany us when there should be water, but said we should not have rain yet. I must confess this old native raised my hopes, and made me again anxious for the moment when we should resume our labours, but when that time was to come God only knew.

It had been to no purpose that we had traversed the country in search for water. None any longer remained on the parched surface of the stony desert, if I except what remained at the Depôt, and the little

in the creek to the eastward. There were indeed the ravages of floods and the vestiges of inundations to be seen in the neighbourhood of every creek we had traced, and upon every plain we had crossed, but the element that had left such marks of its fury was no where to be found.

From this period I gave up all hope of success in any future effort I might make to escape from our dreary prison. Day after day, and week after week passed over our heads, without any apparent likelihood of any change in the weather. The consequences of our detention weighed heavily on my mind, and depressed my spirits, for in looking over Mr. Piesse's monthly return of provisions on hand, I found that unless some step was taken to enable me to keep the field, I should on the fall of rain be obliged to retreat. I had by severe exertion gained a most commanding position, the wide field of the interior lay like an open sea before me, and yet every sanguine hope I had ever indulged appeared as if about to be extinguished. The only plan for me to adopt was to send a portion of the men back to Adelaide. I found by calculation that if I divided the party, retaining nine in all, and sending the remainder home, I should secure the means of pushing my researches to the end of December, before which time I hoped, (however much it had pleased Providence to stay my progress hitherto,) to have performed my task, or penetrated the heartless desert before me, to such a distance as would leave

no doubt as to the question I had been directed to solve.

The old man left us on the 17th with the promise of returning, and from the careful manner in which he concealed the different things that had been given to him I thought he would have done so, but we never saw him more, and I cannot but think that he perished from the want of water in endeavouring to return to his kindred.

I have repeatedly remarked that we had been deserted by all the feathered tribes. Not only was this the case, but we had witnessed a second migration of the later broods; after these were gone, there still remained with us about fifty of the common kites and as many crows: these birds continued with us for the offals of the sheep, and had become exceedingly tame; the kites in particular came flying from the trees when a whistle was sounded, to the great amusement of the men, who threw up pieces of meat for them to catch before they fell to the ground. When the old man first came to us, we fed him on mutton, but one of the men happening to shoot a crow, he shewed such a decided preference for it, that he afterwards lived almost exclusively upon them. He was, as I have stated, when he first came to us a thin and emaciated being, but at the expiration of a fortnight when he rose to depart, he threw off his blanket and exhibited a condition that astonished us all. He was absolutely fat, and yet his face did not at all indicate such a change. If he had been fed in the

dark like capons, he could not have got into better condition. Mr. Browne was anxious to accompany him, but I thought that if his suspicions were aroused he would not return, and I therefore let him depart as he came. With him all our hopes vanished, for even the presence of that savage was soothing to us, and so long as he remained, we indulged in anticipations as to the future. From the time of his departure a gloomy silence pervaded the camp; we were, indeed, placed under the most trying circumstances; every thing combined to depress our spirits and exhaust our patience. We had gradually been deserted by every beast of the field, and every fowl of the air. We had witnessed migration after migration of the feathered tribes, to that point to which we were so anxious to push our way. Flights of cockatoos, of parrots, of pigeons, and of bitterns, birds also whose notes had cheered us in the wilderness, all had taken the same high road to a better and more hospitable region. The vegetable kingdom was at a stand, and there was nothing either to engage the attention or attract the eye. Our animals had laid the ground bare for miles around the camp, and never came towards it but to drink. The axe had made a broad gap in the line of gum-trees which ornamented the creek, and had destroyed its appearance. We had to witness the gradual and fearful diminution of the water, on the possession of which our lives depended; day after day we saw it sink lower and lower, dissipated alike

by the sun and the winds. From its original depth of nine feet, it now scarcely measured two, and instead of extending from bank to bank it occupied only a narrow line in the centre of the channel. Had the drought continued for a month longer than it pleased the Almighty to terminate it, that creek would have been as dry as the desert on either side. Almost heart-broken, Mr. Browne and I seldom left our tents, save to visit our sick companion. Mr. Browne had for some time been suffering great pain in his limbs, but with a generous desire to save me further anxiety carefully concealed it from me; but it was his wont to go to some acacia trees in the bed of the creek to swing on their branches, as he told me to exercise his muscles, in the hope of relaxing their rigidity.

One day, when I was sitting with Mr. Poole, he suggested the erection of two stations, one on the Red Hill and the other on the Black Hill, as points for bearings when we should leave the Depôt. The idea had suggested itself to me, but I had observed that we soon lost sight of the hills in going to the north-west; and that, therefore, for such a purpose, the works would be of little use, but to give the men occupation; and to keep them in health I employed them in erecting a pyramid of stones on the summit of the Red Hill. It is twenty-one feet at the base, and eighteen feet high, and bears 329° from the camp, or 31° to the west of north. I little thought when I was engaged in that work, that I was erecting Mr. Poole's monument, but so it was, that rude

structure looks over his lonely grave, and will stand for ages as a record of all we suffered in the dreary region to which we were so long confined.

Red Hill, or Mount Poole.

The months of May and June, and the first and second weeks of July passed over our heads, yet there was no indication of a change of weather. It had been bitterly cold during parts of this period, the thermometer having descended to 24°; thus making the difference between the extremes of summer heat and winter's cold no less than 133°.

About the middle of June I had the drays put into serviceable condition, the wheels wedged up, and every thing prepared for moving away.

Anxious to take every measure to prevent unnecessary delay, when the day of liberation should arrive, I had sent Mr. Stuart and Mr. Piesse, with a party of chainers, to measure along the line on which I intended to move when the Depôt was broken up. I had determined, as I have elsewhere informed the reader, to penetrate to the westward, in the hope of finding Lake Torrens connected with

some more extensive and more central body of water; and I thought it would be satisfactory to ascertain, as nearly as possible, the distance of that basin from the Darling, and in so doing to unite the eastern and western surveys. I had assumed Sir Thomas Mitchell's position at Williorara as correct, and had taken the most careful bearings from that point to the Depôt, and the position in which they fixed it differed but little from the result of the many lunars I took during my stay there. As I purpose giving the elements of all my calculations, those more qualified than myself to judge on these matters, will correct me if I have been in error; but, as the mean of my lunars was so close to the majority of the single lunars, I cannot think they are far from the truth. Be that as it may, I assumed my position at the Depôt to be in lat. 29° 40′ 14″ S. and in long. 141° 29′ 41″ E., the variation being 5° 14′ East. Allowing for the variation, I directed Mr. Stuart to run the chain line on a bearing of 55° to the west of north, which I intended to cut a little to the west of the park-like and grassy plain at the termination of the creek I had traced in that direction. By supplying the party with water from the camp, I enabled them to prolong the line to 30 miles.

On the 15th of June I commenced my preparations for moving; not that I had any reason so to do, but because I could not bring myself to believe that the drought would continue much longer. The felloes and spokes of the wheels of the drays had shrunk to nothing, and it was with great difficulty that we

wedged them up; but the boat, which had been so long exposed to an ardent sun, had, to appearance at least, been but little injured.

As it became necessary to point out the drays that were to go with the home returning party, I was obliged to break my intentions to Mr. Poole, who I also proposed sending in charge of them. He was much affected, but, seeing the necessity of the measure, said that he was ready to obey my orders in all things. I directed Mr. Piesse to weigh out and place apart the supplies that would be required for Mr. Poole and his men, and to pack the provisions we should retain in the most compact order. On examining our bacon we found that it had lost more than half its weight, and had now completely saturated the bran in which it had been packed. Our flour had lost more than 8 per cent., and the tea in a much greater proportion.

The most valuable part of our stock were the sheep, they had kept in excellent condition, and seldom weighed less than 55 lbs. or 65 lbs.; but their flesh was perfectly tasteless. Still they were a most valuable stock, and we had enough remaining to give the men a full allowance; for the parties employed on detached excursions, could only take a day or two's supply with them, and in consequence a quantity of back rations, if I may so term them, were constantly accumulating.

Mr. Poole's reduced state of health rendered it necessary that a dray should be prepared for his transport, and I requested Mr. Browne to super-

intend every possible arrangement for his comfort. A dray was accordingly lined with sheep skins, and had a flannel tilt, as the nights were exceedingly cold, and he could not be moved to a fire. I had also a swing cot made, with pullies to raise him up when he should feel disposed to change his position.

Whilst these necessary preparations were being forwarded, I was engaged writing my public despatches.

In my communication to the Governor of South Australia, I expressed a desire that a supply of provisions might be forwarded to Williorara by the end of December, about which period I hoped I should be on my return from the interior. I regretted exceedingly putting her Majesty's Government to this additional cost, but I trust a sufficient excuse will have been found for me in the foregoing pages. I would rather that my bones had been left to bleach in that desert than have yielded an inch of the ground I had gained at so much expense and trouble.

The 27th of June completed the fifth month of our detention at the Depôt, and the prospect of our removal appeared to be as distant as ever; there were, it is true, more clouds, but they passed over us without breaking. The month of July, however, opened with every indication of a change, the sky was generally overcast, and although we had been so often disappointed, I had a presentiment that the then appearances would not vanish without rain.

About this time Mr. Poole, whose health on the

whole was improving, had a severe attack of inflammation, which Mr. Browne subdued with great difficulty. After this attack he became exceedingly restless, and expressed a desire to be moved from the tent in which he had so long been confined, to the underground room, but as that rude apartment was exceedingly cold at night, I thought it advisable to have a chimney built to it before he was taken there. It was not until the 12th that it was ready for him. As the men were carrying him across the camp towards the room he was destined to occupy for so short a time, I pointed out the pyramid to him, and it is somewhat singular, that the first drops of rain, on the continuance of which our deliverance depended, fell as the men were bearing him along.

Referring back to the early part of the month, I may observe that the indications of a breaking up of the drought, became every day more apparent.

It was now clear, indeed, that the sky was getting surcharged with moisture, and it is impossible for me to describe the intense anxiety that prevailed in the camp. On the morning of the 3rd the firmament was again cloudy, but the wind shifted at noon to west, and the sun set in a sky so clear that we could hardly believe it had been so lately overcast. On the following morning he rose bright and clear as he had set, and we had a day of surpassing fineness, like a spring day in England.

The night of the 6th was the coldest night we experienced at the Depôt, when the thermometer descended to 24°. On the 7th a south wind made the

barometer rise to 30° 180′, and with it despair once more stared us in the face, for with the wind in that quarter there was no hope of rain. On the 8th it still blew heavily from the south, and the barometer rose to 30° 200′; but the evening was calm and frosty, and the sky without a cloud. I may be wearying my reader, by entering thus into the particulars of every change that took place in the weather at this, to us, intensely anxious period, but he must excuse me; my narrative may appear dull, and should not have been intruded on the notice of the public, had I not been influenced by a sense of duty to all concerned.

No one but those who were with me at that trying time and in that fearful solitude, can form an idea of our feelings. To continue then, on the morning of the 9th it again blew fresh from the south, the sky was cloudless even in the direction of Mount Serle, and all appearance of rain had passed away.

On the 10th, to give a change to the current of my thoughts, and for exercise, I walked down the Depôt creek with Mr. Browne, and turning northwards up the main branch when we reached the junction of the two creeks, we continued our ramble for two or three miles. I know not why it was, that, on this occasion more than any other, we should have contemplated the scene around us, unless it was that the peculiar tranquillity of the moment made a greater impression on our minds. Perhaps the death-like silence of the scene at that moment led us to reflect, whilst gazing on the ravages made by the

floods, how fearfully that silence must sometimes be broken by the roar of waters and of winds. Here, as in other places, we observed the trunks of trees swept down from the hills, lodged high in the branches of the trees in the neighbourhood of the creek, and large accumulations of rubbish lying at their butts, whilst the line of inundation extended so far into the plains that the country must on such occasions have the appearance of an inland sea. The winds on the other hand had stripped the bark from the trees to windward (a little to the south of west), as if it had been shaved off with an instrument, but during our stay at the Depôt we had not experienced any unusual visitation, as a flood really would have been; for any torrent, such as that which it was evident sometimes swells the creek, would have swept us from our ground, since the marks of inundation reached more than a mile beyond our encampment, and the trunk of a large gum-tree was jambed between the branches of one overhanging the creek near us at an altitude exceeding the height of our tents.

On the 11th the wind shifted to the east, the whole sky becoming suddenly overcast, and on the morning of the 12th it was still at east, but at noon veered round to the north, when a gentle rain set in, so gentle that it more resembled a mist, but this continued all the evening and during the night. It ceased however at 10 A.M. of the 13th, when the wind shifted a little to the westward of north. At noon rain again commenced, and fell steadily throughout the night, but although the ground

began to feel the effects of it, sufficient had not fallen to enable us to move. Yet, how thankful was I for this change, and how earnestly did I pray that the Almighty would still farther extend his mercy to us, when I laid my head on my pillow. All night it poured down without any intermission, and as morning dawned the ripple of waters in a little gully close to our tents, was a sweeter and more soothing sound than the softest melody I ever heard. On going down to the creek in the morning I found that it had risen five inches, and the ground was now so completely saturated that I no longer doubted the moment of our liberation had arrived.

I had made every necessary preparation for Mr. Poole's departure on the 13th, and as the rain ceased on the morning of the 14th the home returning party mustered to leave us. Mr. Poole felt much when I went to tell him that the dray in which he was to be conveyed, was ready for his reception. I did all that I could to render his mind easy on every point, and allowed him to select the most quiet and steady bullocks for the dray he was to occupy; together with the most careful driver in the party. I also consented to his taking Joseph, who was the best man I had, to attend personally upon him, and Mr. Browne put up for his use all the little comforts we could spare. I cheered him with the hope of returning to meet us after we should have terminated our labours, and assured him that I considered his services on the duty I was about to send him as valuable and important as if he con-

tinued with me. He was lifted on his stretcher into the dray, and appeared gratified at the manner in which it had been arranged. I was glad to see that his feelings did not give way at this painful moment; on my ascending the dray, however, to bid him adieu, he wept bitterly, but expressed his hope that we should succeed in our enterprise.

As I knew his mind would be agitated, and that his greatest trial would be on the first day, I requested Mr. Browne to accompany him, and to return to me on the following day. On Mr. Poole's departure I prepared for our own removal, and sent Flood after the horses, but having an abundance of water everywhere, they had wandered, and he returned with them too late for me to move. He said, that in crossing the rocky range he heard a roaring noise, and that on going to the glen he saw the waters pouring down, foaming and eddying amongst the rocks, adding that he was sure the floods would be down upon us ere long. An evident proof that however light the rain appeared to be, an immense quantity must have fallen, and I could not but hope and believe that it had been general.

Before we left the Depôt Flood's prediction was confirmed, and the channel which, if the drought had continued a few days longer, would have been perfectly waterless, was thus suddenly filled up to the brim; no stronger instance of the force of waters in these regions can be adduced than this, no better illustration of the character of the creeks can be given. The head of the Depôt creek was not more

than eight miles from us, its course to its junction with the main creek was not ten, yet it was a water-course that without being aware of its commencement or termination might have been laid down by the traveller as a river. Such however is the uncertain nature of the rivers of those parts of the continent of Australia over which I have wandered. I would not trust the largest farther than the range of vision; they are deceptive all of them, the offsprings of heavy rains, and dependent entirely on local circumstances for their appearance and existence.

Having taken all our circumstances into consideration, our heart-breaking detention, the uncertainty that involved our future proceedings, and the ceaseless anxiety of mind to which we should be subjected, recollecting also that Mr. Browne had joined me for a limited period only, and that a protracted journey might injure his future prospects, I felt that it was incumbent on me to give him the option of returning with Mr. Poole if he felt disposed to do so, but he would not desert me, and declined all my suggestions.

On the morning of the 16th I struck the tents, which had stood for six months less eleven days, and turned my back on the Depôt in grateful thankfulness for our release from a spot where my feelings and patience had been so severely tried. When we commenced our journey, we found that our progress would be slow, for the ground was dreadfully heavy, and the bullocks, so long unaccustomed to draught, shrunk from their task. One of the drays stuck in the little gully behind our camp,

and we were yet endeavouring to get it out, when Mr. Browne returned from his attendance on Mr. Poole, and I was glad to find that he had left him in tolerable spirits, and with every hope of his gradual improvement.

As we crossed the creek, between the Depôt and the glen, we found that the waters, as Flood predicted, had descended so far, and waded through them to the other side. We then rode to the glen, to see how it looked under such a change, and remained some time watching the current as it swept along.

On our return to the party I found that it would be impossible to make a lengthened journey ; for, having parted with two drays, we had necessarily been obliged to increase the loads on the others, so that they sank deep into the ground. I therefore halted, after having gone about four miles only.

About seven o'clock P.M. we were surprised by the sudden return of Joseph, from the home returning party; but, still more so at the melancholy nature of the information he had to communicate. Mr. Poole, he said, had breathed his last at three o'clock. This sad event necessarily put a stop to my movements, and obliged me to consider what arrangements I should now have to make.

It appeared, from Joseph's account, that Mr. Poole had not shewn any previous indications of approaching dissolution. About a quarter before three he had risen to take some medicine, but suddenly observed to Joseph that he thought he was

dying, and falling on his back, expired without a struggle.

Early on the morning of this day, and before we ourselves started, I had sent Mr. Stuart and Mr. Piesse in advance with the chainers, to carry on the chaining. On the morning of the 17th, before I mounted my horse to accompany Mr. Browne to examine the remains of our unfortunate companion, which I determined to inter at the Depôt, I sent a man to recall them.

The suddenness of Mr. Poole's death surprised both Mr. Browne and myself; but the singular fairness of his countenance left no doubt on his mind but that internal hæmorrhage had been the immediate cause of that event.

On the 17th the whole party, which had so lately separated, once more assembled at the Depôt. We buried Mr. Poole under a Grevillia that stood close to our underground room; his initials, and the year, are cut in it above the grave, "J. P. 1845," and he now sleeps in the desert.

The sad event I have recorded, obliged me most reluctantly to put Mr. Piesse in charge of the home returning party, for I had had every reason to be satisfied with him, and I witnessed his departure with regret. A more trustworthy, or a more anxious officer could not have been attached to such a service as that in which he was employed.

The funeral of Mr. Poole was a fitting close to our residence at the Depôt. At the conclusion of that ceremony the party again separated, and I returned to my tent, to prepare for moving on the morrow.

At 9 A.M. accordingly of the 18th we pushed on to the N.W. The ground had become much harder, but the travelling was still heavy. At three miles we passed a small creek, about seven miles from the Depôt, at which I intended to have halted on leaving that place. We passed over stony plains, or low, sandy, and swampy ground, since the valleys near the hills opened out as we receded from them. On the 19th I kept the chained line, but in consequence of the heavy state of the ground we did not get on more than 8½ miles. The character of the country was that of open sandy plains, the sand being based upon a stiff, tenacious clay, impervious to water. With the exception of a few salsolæ and atriplex, the plains were exceedingly bare, and had innumerable patches of water over them, not more than two or three inches deep. At intervals pure sand hills occurred, on which there

were a few stunted casuarina and mimosæ, but a good deal of grass and thousands of young plants already springing up. As the ground was still very soft, I should not have moved on the 20th, but was anxious to push on. Early in the day, and at less than 18 miles from the hills, we encountered the sandy ridges, and found the pull over them much worse than over the flats. The wheels of the drays sank deep into the ground, and in straining to get them clear we broke seven yokes. Two flights of swans, and a small flight of ducks, passed over our heads at dusk, coming from the W.N.W. The brushes were full of the Calodera, but being very wild we could not procure a specimen.

The chainers had no difficulty in keeping pace with us, and on the 26th we found ourselves in lat. 29° 6′, having then chained 61 miles on a bearing of 55° to the west of north, as originally determined upon. Finding that I had thus passed to the south-west of the grassy plain, I halted, and rode with Flood to the eastward; when at seven miles we descended into it, and finding that there was an abundance of water in the creek (the channel we had before noticed), I returned to Mr. Browne; but as it was late in the afternoon when we regained the tents, we did not move that evening, and the succeeding day being Sunday we also remained stationary. We had halted close to one of those clear patches on which the rain water lodges, but it had dried up,

and there was only a little for our use in a small gutter not far distant. Whilst we were here encamped a little jerboa was chased by the dogs into a hole close to the drays; which, with four others, we succeeded in capturing, by digging for them. This beautiful little animal burrows in the ground like a mouse, but their habitations have several passages, leading straight, like the radii of a circle, to a common centre, to which a shaft is sunk from above, so that there is a complete circulation of air along the whole. We fed our little captives on oats, on which they thrived, and became exceedingly tame. They generally huddled together in a corner of their box, but, when darting from one side to the other, they hopped on their hind legs, which, like the kangaroo, were much longer than the fore, and held the tail perfectly straight and horizontal. At this date they were a novelty to us, but we subsequently saw great numbers of them, and ascertained that the natives frequented the sandy ridges in order to procure them for food. Those we succeeded in capturing were, I am sorry to say, lost from neglect.

On Monday I conducted the whole party to the new depôt, which for the present I shall call the Park, but as I was very unwilling that any more time should be lost in pushing to the west, I instructed Mr. Stuart to change the direction of the chained line to 75° to the west of south, direct upon Mount Hopeless, and to continue it until I should overtake him. In this operation Mr. Browne kindly

volunteered to assist Mr. Stuart, as the loss of Mr. Piesse had so reduced my strength.

By the 30th I had arranged the camp in its new position, and felt myself at liberty to follow after the chainers. Before I left, however, I directed a stock-yard to be made, in which to herd the cattle at night, and instructed Davenport to prepare some ground for a garden, with a view to planting it out with vegetables—pumpkins and melons. I left the camp with Flood, at 10 A.M. on the above day, judging that Mr. Browne was then about 42 miles a-head of me, and stopped for the night in a little sheltered valley between two sand hills, after a ride of 28 miles. The country continued unchanged. Valleys or flats, more or less covered with water, alternated with sandy ridges, on some of which there was no scarcity of grass.

We had not ridden far on the following morning when a partial change was perceptible in the aspect of the country. The flats became broader and the sand hills lower, but this change was temporary. We gradually rose somewhat from the general level, and crossed several sand hills, higher than any we had seen. These sand hills had very precipitous sides and broken summits, and being of a bright red colour, they looked in the distance like long lines of dead brick walls, being perfectly bare, or sparingly covered with spinifex at the base. They succeeded each other so rapidly, that it was like crossing the tops of houses in some street; but they

were much steeper to the eastward than to the westward, and successive gales appeared to have lowered them, and in some measure to have filled up the intervening flats with the sand from their summits.

The basis of the country was sandstone, on which clay rested in a thin layer, and on this clay the sandy ridges reposed.

We overtook Mr. Browne about half an hour before sunset, and all halted together, when the men had completed their tenth mile.

On the 1st of August we did not find the country so heavy or so wet as it had been. It was indeed so open and denuded of every thing like a tree or bush, that we had some difficulty in finding wood to boil our tea. In the afternoon when we halted the men had chained 46 miles on the new bearing, but as yet we could not see any range or hill to the westward.

About two hours before we halted Mr. Browne and I surprised some natives on the top of a sand hill, two of them saw us approaching and ran away, the third could not make his escape before we were upon him, but he was dreadfully alarmed. In order to allay his fears Mr. Browne dismounted and walked up to him, whilst I kept back. On this the poor fellow began to dance, and to call out most vehemently, but finding that all he could do was to no purpose he sat down and began to cry. We managed however to pacify him, so much that he mustered courage to follow us, with his two companions, to our halting place. These wanderers of

the desert had their bags full of jerboas which they had captured on the hills. They could not indeed have had less than from 150 to 200 of these beautiful little animals, so numerous are they on the sand hills, but it would appear that the natives can only go in pursuit of them after a fall of rain, such as that we had experienced. There being then water, the country, at other times impenetrable, is then temporarily thrown open to them, and they traverse it in quest of the jerboa and other quadrupeds. Our friends cooked all they had in hot sand, and devoured them entire, fur, skin, entrails and all, only breaking away the under jaw and nipping off the tail with their teeth.

They absolutely managed before sunset to finish their whole stock, and then took their departure, having, I suppose, gratified both their appetite and their curiosity. They were all three circumcised and spoke a different language from that of the hill natives, and came, they told us, from the west.

As we advanced the country became extremely barren, and surface water was very scarce, and the open ground, entirely denuded of timber, wore the most desolate appearance. If we had hitherto been in a region destitute of inhabitants it seemed as if we were now getting into a more populous district. About noon of the 2nd, as Mr. Browne and I were riding in front of the chainers, we heard a shout to our right, and on looking in that direction saw a party of natives assembled on a sand hill, to the number of fourteen. As we advanced towards them

they retreated, but at length made a stand as if to await our approach. They were armed with spears, and on Mr. Browne dismounting to walk towards them, formed themselves into a circle, in the centre of which were two old men, round whom they danced. Thinking that Mr. Browne might run some risk if he went near, I called him back, and as I really had not time for ceremonies, we rejoined the chainers, beng satisfied also that if the natives felt disposed to communicate with us, they would do so of their own accord; nor was I mistaken in this, for, judging, I suppose, from our leaving them that we did not meditate any hostility, seven of their number followed us, and as Mr. Browne was at that time in advance, I gave my horse to one of the men and again went towards them, but it was with great difficulty that I got them to a parley, after which they sat down and allowed me to approach, though from the surprise they exhibited I imagine they had never seen a white man before. They spoke a language different from any I had heard, had lost two of the front teeth of the upper jaw, and had large scars on the breast. I could not gather any information from them, or satisfactorily ascertain from what quarter they came; staying with them for a short time therefore, and giving them a couple of knives I left them, and after following abreast of us, for a mile or two, they also turned to the north, and disappeared.

The night of the 2nd August was exceedingly cold, with the wind from the N.E. (an unusual

quarter from which to have a low temperature) and there was a thick hoar frost on the morning of the 3rd. Why the winds should have been so cold blowing from that quarter, whence our hottest winds also came, it is difficult to say; but at this season of the year, and in this line, they were invariably so.

Near the flat on which we stopped on the evening of the 2nd there was a hill considerably elevated above the others; which, after unsaddling and letting out the horses, Mr. Browne and I were induced to ascend. From it we saw a line of high and broken ranges to the S.S.W. but they were very distant. At three and a half miles from this point we crossed a salt water creek, having pools in it of great depth, but so clear that we could see to the bottom; and wherever our feet sank in the mud, salt water immediately oozed up. There were some box-trees growing near this creek, which came from the north, and fell towards the ranges. At half a mile further we crossed a small fresh water creek, and intermediate between the two was a lagoon of about a mile in length, but not more than three inches in depth. This lagoon, if it might so be called, from its size only, had been filled by the recent rains; but was so thick and muddy, from being continually ruffled by the winds, that it was unfit for use. The banks of the fresh water creek were crowded with water-hens, similar to those which visited Adelaide in such countless numbers the year before I proceeded into the interior (1843).

They were running about like so many fowls; but, on being alarmed, took flight and went south.

The fresh water creek (across which it was an easy jump) joined the salt water creek a little below where we struck it, and was the first creek of the kind we had seen since we left the Depôt, in a distance of more than 100 miles, and up to this point we had entirely subsisted on the surface water left by the rains. The country we now passed through was of a salsolaceous character, like a low barren sea coast. The sand hills were lower and broader than they had been, and their sides were cut by deep fissures made by heavy torrents. From a hill, about a mile from our halting place on this day, we again saw the ranges, which had been sighted the day before. South of us, and distant about a mile, there was a large dry lagoon, white with salt, and another of a similar kind to the west of it.

These changes in the character of the country convinced me that we should soon arrive at some more important one. On the 4th we advanced as usual on a bearing of 75° to the west of south, having then chained 65 miles upon it. At about three miles we observed a sand hill in front of us, beyond which no land was to be seen, as if the country dipped, and there was a great hollow. On arriving at this sand hill our further progress westward was checked by the intervention of an immense shallow and sandy basin, upon which we looked down from the place where we stood. The hills we had seen the day

before were still visible through a good telescope, but we could only distinguish their outlines; in addition to them, however, there was a nearer flat-topped range, more to the northward and westward of the main range, which latter still bore S.S.W., and appeared to belong to a high and broken chain of mountains. The sandy basin was from ten to twelve miles broad, but destitute of water opposite to us, although there were, both to the southward and northward, sheets of water as blue as indigo and as salt as brine. These detached sheets were fringed round with samphire bushes with which the basin was also speckled over. There was a gradual descent of about a mile and a half, to the margin of the basin, the intervening ground being covered with low scrub. My first object was, to ascertain if we could cross this feature, which extended southwards beyond the range of vision, but turned to the westward in a northerly direction, in the shape in which Mr. Eyre has laid Lake Torrens down. For this purpose Mr. Browne and I descended into it. The bed was composed of sand and clay, the latter lying in large masses, and deeply grooved by torrents of rain. There was not any great quantity of salt to be seen, but it was collected at the bottom of gutters, and, no doubt, was more or less mixed with the soil. At about four miles we were obliged to dismount; and, tying our horses so as to secure them, walked on for another mile, when we found the ground too soft for our weight and were obliged to return; and, as it

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OF THE

LAKE TORRENS

was now late, we commenced a search for water, and having found a small supply in a little hollow, at a short distance from the flag, we went to it and encamped. The length of the chain line to the flag staff was 70¾ miles, which with the 61 we had measured from the Depôt, made 131¾ miles in all; the direct distance, therefore, from the Depôt to the flag staff, was about 115 miles, on a bearing of 9½° to the North of West or W. ¾ N.

My object in the journey I had thus undertaken, was not so much to measure the distance between the two places, as to ascertain if the country to the north-west of Lake Torrens, on the borders of which I presumed I had arrived, was practicable or not, and whether it was connected with any more central body of water. It behoved me to ascertain these two points with as little delay as possible, for the surface water was fast drying up, and we were in danger of having our retreat cut off. Whether the country was practicable or not, in the direction I was anxious to take, it was clear that I could not have penetrated as far as I then was, with the heavy drays, with any prudence.

To be more satisfied, however, as to the nature of the country to the westward, I rode towards the N.E. angle of the Sandy Basin, on the morning of the 4th, sending Mr. Stuart southwards, to examine it in that direction; but, neither of these journeys proving satisfactory, I determined on fixing the position of the hills in reference to our chained line, and then

return to the Depôt, to prepare for a more extensive exploration of the N.W. interior. I found the country perfectly impracticable to the N.W., and that it was impossible to ascertain the real character of this Sandy Basin. On the other side of it the country appeared to be wooded; beyond the wood there was a sudden fall; and, as far as I could judge, this singular feature must have been connected with Spencer's Gulf, before the passage that evidently existed once between them, was filled up.

On the 5th I ran a base line from the end of the chained line to the north-west, on a bearing of 317°, to the only prominent sand hill in that direction, distant from the staff 5½ miles, from the extremities of which the ranges bore as follow:—

BEARINGS FROM THE FLAG STAFF AT THE TERMINATION OF THE CHAINED LINE.

To a bluff point in the main range	198·00
To the north point of the south range	188·40
To the north point . . .	182·50
To the highest point in south range	187·00
To the flat-topped hills . .	231·00
To the north-west point of the lake	283·00
To the south point . . .	158·00

BEARINGS FROM THE NORTH-WEST EXTREMITY.

To the bluff	194·30
To the north point of south range .	184·00
To the south	183·00
To the flat-topped hills . .	176·30
To the north-west extremity of lake	275·00

The angles given by these bearings were necessarily very acute, but that could not be avoided. With the bearings, however, from a point in our chain line, 16 miles to the rear, they gave the distance of the more distant ranges as 65 miles, that of the nearer ones as 33.

Our latitude, by altitudes of Vega and Altair, on the night of the 5th of August, was 29° 14′ 39″, and 29° 15′ 14″; by our bearings, therefore, the flat-topped hills were in lat. 29° 33′, and the bluff, in the centre of the distant chain, where there appeared to be a break in it, in 30° 10′, and in long. 139° 12′.

Presuming our Depôt to have been in lat. 29° 40′ 10″, and in long. 141° 30′ E., and allowing 52½ miles to a degree, our long. by measurement was 139° 20′ E. I had ascertained the boiling point of water at our camp, about 100 feet above the level of the basin to be 212$\frac{75}{100}$; which made our position there considerably below the level of the sea: but in using the instrument on the following morning in the bed of the basin itself, I unfortunately broke it. As, however, the result of the observation at our bivouac gave so unusual a depression, and as, if it was correct, Lake Torrens must be very considerably below the level of the sea, I can only state that the barometer had been compared with one in Adelaide by Capt. Frome, and that, allowing for its error, its boiling point on a level with the sea had been found by him to be 212$\frac{85}{100}$.

On the 6th I left the neighbourhood of this place, and stopped at 16 miles to verify our former bear-

ings. The country appeared more desolate on our return to the camp than when we were advancing. Almost all the surface water had dried up, or now consisted of stagnant mud only, so that we were obliged to push on for the Park, at which we arrived on the 8th. On the 10th we completed the year, it being the anniversary of our departure from Adelaide.

I found that every thing had gone on regularly in the camp during my absence, and that the cattle and sheep had been duly attended to. Davenport had also dug and planned out a fine garden, which he had planted with seeds, but none had as yet made their appearance above the ground.

The day after our return to the camp we were visited by two natives, who were attracted towards us by the sound of the axe. They were crossing the plain, and were still at a considerable distance when they observed Davenport pointing a telescope, on which they stopped, but on my sending a man to meet them, came readily forward. We were in hopes that we should see our old friend in the person of one of them, but were disappointed; nor would they confirm any of his intelligence, neither could they recognise any of the fish in the different plates I had shewn him. In truth, we could get nothing out of these stupid fellows; but, as we gave them plenty to eat, they proposed bringing some other natives to taste our mutton, on the following day; and, leaving us, returned, as they said,

with their father and brother, the latter a fine young lad. But neither from the old man could we gather any information, as to the nature of the country before us. These people were circumcised, like many others we had seen, but were in no way disfigured by the loss of their teeth or cuts. I can say as little for their cleanliness as for their information, since they melted the fat we gave them in troughs, and drank it as if it had been so much oil, emptying what remained on their heads, rubbing the grease into their hair, and over their bodies.

I felt satisfied on mature reflection that if the country continued to any distance either to the northward or westward, such as we had found it on our recent journey, it would be highly imprudent to venture into it with the whole party. Setting aside the almost utter impossibility of pulling the drays over the heavy sand ridges by which our route would be intersected, little or no surface water now remained. The ground was becoming as dry and parched as it had been before the fall of rain. I determined therefore before I again struck the tents to examine the country to the north-west, and not incautiously to hazard the safety of the party by leading it into a region from which I might find it difficult to retreat. As soon therefore as I had run up the charts, I prepared for this journey. Our position at the new Depôt was in latitude 29° 6′ 30″, and in longitude 141° 5′ 8″, it therefore appeared to me if I ran on a bearing of 45° to the west of north,

I should gain the 138th meridian about the centre of the continent, and at the same time cross into the Tropics at the desired point, and I felt certain that if there were any mountain chains or ranges of hills to the westward of me connected with the north-east angle of the continent I should be sure to discover them.

In preparing for this important journey, on which it was evident the success of the expedition would depend,. I took more than ordinary precautions. I purposed giving the charge of the camp to Mr. Stuart.—I had established it on a small sandy rise, whereon we found five or six native huts. This spot was at the northern extremity of the Park, but a little advanced into it. Immediately in front of the tents there was a broad sheet of water shaded by gum-trees, and the low land between this and the sand hills was also chequered with them. The position was in every way eligible. The open grassy field or plain stood full in view, and the men could see the cattle browsing on it, but I directed Mr. Stuart never to permit them to be without one of the men as a guard, and to have them secured nightly in the stockyard. In order to provide for the further security of the camp, I marked out the lines, for the erection of a stockade, wherein I directed Mr. Stuart to pitch one of the bell tents. In this tent I instructed him to deposit the arms and ammunition, and to consider it as the rallying point in the event of any attack by the natives, in

which case I told him his first step would be to secure the sheep. I desired that the stockade might be commenced as soon as I left, and that it should be built of palisades 4½ feet above the ground, and arranged close together. In such a fortification I considered that the men would be perfectly safe, and as the stockyard was in a short range of the carbines I felt the cattle would be sufficiently protected.

I selected Flood, Lewis, and Joseph to accompany me, and took 15 weeks provisions. This supply required all the horses but one, for although they had so long a rest at the old Depôt they were far from being strong, since for the last three months they had lived on salsolaceous herbs, or on the shoots of shrubs, so that although apparently in good condition they had no work in them. My last instructions to Morgan were to prepare and paint the boat in the event of her being required.

CHAPTER VIII.

LEAVE THE DEPÔT FOR THE NORTH-WEST — SCARCITY OF WATER — FOSSIL LIMESTONE — ARRIVE AT THE FIRST CREEK — EXTENSIVE PLAINS — SUCCESSION OF CREEKS — FLOODED CHARACTER OF THE COUNTRY — POND WITH FISH — STERILE COUNTRY — GRASSY PLAINS — INTREPID NATIVE — COUNTRY APPARENTLY IMPROVES — DISAPPOINTMENTS — WATER FOUND — APPEARANCE OF THE STONY DESERT — NIGHT THEREON — THE EARTHY PLAIN — HILLS RAISED BY REFRACTION — RECOMMENCEMENT OF THE SAND RIDGES — THEIR UNDEVIATING REGULARITY — CONJECTURES AS TO THE DESERT — RELATIVE POSITION OF LAKE TORRENS — CONCLUDING REMARKS.

On the morning of the 14th Mr. Browne and I mounted our horses, and left the camp at 9 A.M., followed by the men I had selected, and crossing the grassy plain in a N.W. direction, soon found ourselves amidst sand hills and scrub.

As I have stated I had determined to preserve a course of 45° to the west of north, or in other words a north-west course, but the reader will readily believe that in such a country I had no distant object on which to rely. We were therefore obliged to take fresh bearings with great precision from almost every sand-hill, for on the correctness of these bearings, together with our latitude, we had to depend

for our true position. We were indeed like a ship at sea, without the advantage of a steady compass.

Throughout the whole day of our departure from the camp we traversed a better country than that between it and Lake Torrens, insomuch that there was more grass. Sand ridges and flats succeeded each other, but the former were not so broken and precipitous or the latter so barren, as on our line to the westward, and about four miles from the camp we passed a pool of water to our right. At five miles we observed a new melaleuca, similar to the one I had remarked when to the north with Joseph, growing on the skirts of the flats, but the shrubs for the most part consisted of hakea and mimosæ with geum and many other minor plants. For a time the ridges were smooth on their sides, and a quantity of young green grass was springing up on them. At nine miles we crossed some stony plains, and halted after a ride of 26 miles without water.

On the 15th a strong and bitterly cold wind blew from the westward as we passed through a country differing in no material respect from that of the day before. Spinifex generally covered the sand ridges, which looked like ocean swells rising before us, and many were of considerable height. At six miles we came to a small pool of water, where we breakfasted. On leaving this we dug a hole and let the remainder of the water into it, in the hope of its longer continuance, and halted after a long journey in a valley in which there

was a kind of watercourse with plenty of water, our latitude being 28° 21′ 39″. Before we left this place we cut a deep square hole, into which as before we drained the water, that by diminishing its surface we might prevent the too speedy evaporation of it, in case of our being forced back from the want of water in the interior, since that element was becoming more scarce every day. We saw but little change in the character of the country generally as we rode through it, but observed that it was more open to the right, in which direction we passed several extensive plains. There were heaps of small pebbles also of ironstone and quartz on some of the flats we crossed. We halted at the foot of a sand hill, where there was a good deal of grass, after a vain search for water, of which we did not see a drop during the day. The night of the 17th, like the preceding one, was bitterly cold, with the wind at S.W. During the early part of this day we passed over high ridges of sand, thickly covered with spinifex, and a new polygonum, but subsequently crossed some flats of much greater extent than usual, and of much better soil, but the country again fell off in quality and appearance, although on the whole the tract we had crossed on our present journey was certainly better than that we traversed in going to Lake Torrens. We halted rather earlier than usual, at a creek containing a long pond of water between two and three feet deep. The ground near it was barren, if I except the polygonum that

was growing near it. The horses however found a sufficiency to eat, and we were prevented the necessity of digging at this point, in consequence of the depth of the water. We observed some fossil limestone cropping out of the ground in several places as we rode along, and the flats were on many parts covered with small rounded nodules of lime, similar to those I have noticed as being strewed over the fossil cliffs of the Murray. It appeared to me as I rode over some of the flats that the drainage was to the south, but it was exceedingly difficult in so level and monotonous a region to form a satisfactory opinion. We saw several emus in the course of the day, and a solitary crow, but scarcely any other of the feathered tribe. There was an universal sameness in the vegetation, if I except the angophora, growing on the sand hills and superseding the acacia.

On the 18th the morning was very cold, with the wind at east, and a cloudy sky. We started at eight; and after crossing three very high sand ridges, descended into a plain of about three miles in breadth, extending on either hand to the north and south for many miles. At the further extremity of this plain we observed a line of box-trees, lying, or rather stretching, right across our course; but as they were thicker to the S.W. than at the point towards which we were riding, I sent Flood to examine the plain in that direction. In the mean time Mr. Browne and I rode quietly on;

and on arriving at the trees, found that they were growing in the broad bed of a creek, and were overhanging a beautiful sheet of water, such as we had not seen for many a day. It was altogether too important a feature to pass without further examination; I therefore crossed, and halted on its west bank, and as soon as Flood returned, (who had not seen any water,) but had ascertained that just below the trees, the creek spreads over the plain, I sent him with Mr. Browne to trace it up northward, the fall of the country apparently being from that point. In the meantime we unloaded the horses, and put them out on better grass than they had had for some time. On the opposite side of the creek, and somewhat above us, there were two huts, and the claws of crayfish were scattered about near them. There were also a few wild fowl and Hæmantopus sitting on the water, either unconscious of or indifferent to our presence. This fine sheet of water was more than 60 yards broad by about 120 long, but, as far as we could judge, it was shallow.

Mr. Browne returned to me in about three hours, having traced the creek upwards until he lost its channel, as Flood had done on a large plain, that extended northwards to the horizon. He observed the country was very open in that direction, and had passed another pond of water, deeper but not so large as that at which we had stopped, and surprised an old native in his hut with two of

his wives, from whom he learnt that there were both hills and fish to the north.

Whilst Mr. Browne was away, I debated within myself whether or not to turn from the course on which I had been running to trace this creek up. The surface water was so very scarce, that I doubted the possibility of our getting on; but was reluctant to deviate from the line on which I had determined to penetrate, and I think that, generally, one seldom gains anything in so doing. From Mr. Browne's account of the creek, its character appeared to be doubtful, so that I no longer hesitated on my onward course; but we remained stationary for the remainder of the day.

The evening of this day was beautifully fine, and during it many flights of parrots and pigeons came to the water. Of the latter we shot several, but they were very wild and wary. There was on the opposite side of the creek a long grassy flat, with box-trees growing on it, together with a new Bauhinia, which we saw here for the first time. On this grassy flat there were a number of the water-hens we had noticed on the little fresh-water creek near Lake Torrens. These birds were running about like fowls all over the grass, but although they had been so tame as to occupy the gardens and to run about the streets of Adelaide, they were now wild enough.

Mr. Browne remarked that the females he had seen were, contrary to general custom as regards

that sex, deficient in the two front teeth of the upper jaw, but that the teeth of the man were entire, and that he was not otherwise disfigured. I was anxious to have seen these natives, and, as their hut was not very far from us, we walked to it in the cool of the afternoon, but they had left, and apparently gone to the N.E.; we found some mussel shells amongst the embers of some old fire near it. Our latitude at this point was 28° 3′ S., at a distance of 86 miles from the Park.

We left on the morning of the 20th at an early hour, and after crossing that portion of the plain lying to the westward, ascended a small conical sand hill, that rose above the otherwise level summit of the ridge. From this little sand hill we had our anticipations confirmed as to the low nature of the country to the north as a medium point, but observing another and a much higher point to the westward, we went to, and found that the view extended to a much greater distance from it. The country was very depressed, both to the north and north-west. The plains had almost the character of lagoons, since it was evident they were sometimes inundated, from the water mark on the sand hills, by which they were partly separated from one another. Below us, on our course, there was a large plain of about eight miles in breadth; but immediately at the foot of the hill, which was very abrupt (being the terminating point of a sandy ridge of which it was the northern extremity), there was a

polygonum flat. We there saw a beautiful parrot, but could not procure it. The plain we next rode across was evidently subject to floods in many parts; the soil was a mixture of sand and clay. There was a good deal of grass here and there upon it, and box-trees stunted in their growth were scattered very sparingly round about; but the country was otherwise denuded of timber. There were large bare patches on the plains, that had been full of water not long before, but too shallow to have lasted long, and were now dry. We found several small pools, however, and halted at one, after a journey of 17 miles, near some gum-trees.

The morning of the 20th was exceedingly calm, with the wind from the west, but it had been previously from the opposite point. The channel of the creek was broad, and we traced it to some distance on either hand, but it contained no water, excepting that at which we stopped; but at about two miles before we halted, Mr. Browne found a supply under some gum-trees, a little to the right of our course, where we halted on our return.

The Bauhinia here grew to the height of 16 to 20 feet, and was a very pretty tree; the ends of its branches were covered with seed-pods, both of this and the year before: it was a flat vessel, containing four or six flat hard beans. I regretted, at this early stage of our journey, that the horses were not up to much work, although we were very considerate with them, but the truth is, that they had for about two

or three months before leaving the Depôt, been living on pulpy vegetables, in which there was no strength, they nevertheless looked in good condition. They had become exceedingly tractable, and never wandered far from our fires; Flood, however, watched them so narrowly that they could not have gone far. Since the three days' rain in July, the sky was but little clouded, but we now observed, that from whatever quarter the wind blew, a bank of clouds would rise in the opposite direction—if from the east, in the west, and *vice versâ*—but these clouds invariably came against the wind, and must consequently have been moving in an upper current.

On the 20th we commenced our journey early, that is to say, at 6 A.M.; the sky was clear, the temperature mild, and the wind in the S.E. quarter. We crossed plains of still greater extent than any we had hitherto seen; their soil was similar to that on the flats of the Darling, and vegetation seemed to suffer from their liability to inundation. The only trees now to be seen were a few box-trees along their skirts, and on the line of the creeks, which last were a perfectly new feature in the country, and surprised me greatly. The tract we passed over on this day was certainly more subject to overflow than usual. Large flats of polygonum, and plains having rents and fissures in them, succeeded those I have already described. At ten miles we intersected a creek of considerable size, but without any water; just below where we crossed its channel it spreads

over a large flat and is lost. Proceeding onwards, at a mile and a half, we ascended a line of sand hills, and from them descended to firmer ground than that on which we had previously travelled. At six miles we struck another creek with a broad and grassy bed, on the banks of which we halted, at a small and muddy pool of water. The trees on this creek were larger than usual and beautifully umbrageous. It appeared as if coming from the N.E., and falling to the N.W. There were many huts both above and below our bivouac, and well-trodden paths from one angle of the creek to the other. All around us, indeed, there were traces of natives, nor can there be any doubt, but that at one season of the year or other, it is frequented by them in great numbers. From a small contiguous elevation our view extended over an apparently interminable plain in the line of our course. That of the creek was marked by gum-trees, and I was not without hopes that we should again have halted on it on the 21st, but we did not, for shortly after we started it turned suddenly to the west, and we were obliged to leave it, and crossed successive plains of a description similar to those we had left behind, but with little or no vegetation upon them. At about five miles we intersected a branch creek coming from the E.N.E., in which there was a large but shallow pool of water. About a mile to the westward of this channel we ascended some hills, in the composition of which there was more clay than sand, and descended from

them to a firm and grassy plain of about three and a half miles in breadth. At the farther extremity we crossed a line of sand hills, and at a mile and a half again descended to lower ground, and made for some gum-trees at the western extremity of the succeeding plain, on our old bearing of 55° to the west of north. There we intersected another creek with two pools of water in it, and as there was also a sufficiency of grass we halted on its banks.

The singular and rapid succession of these watercourses exceedingly perplexed me, for we were in a country remote from any high lands, and consequently in one not likely to give birth to such features, yet their existence was a most fortunate circumstance for us. There can be no doubt but that the rain, which enabled us to break up the old Depôt and resume our operations, had extended thus far, but all the surface water had dried up, and if we had not found these creeks our progress into the interior would have been checked. In considering their probable origin, it struck me that they might have been formed by the rush of floods from the extensive plains we had lately crossed. The whole country indeed over which we had passed from the first creek, was without doubt very low, and must sometimes be almost entirely under water, but what, it may be asked, causes such inundation? Such indeed was the question I asked myself, but I must say I could arrive at no satisfactory conclusion.

That these regions are subject to heavy rains I

had not the slightest doubt, but could the effect of heavy rains have produced these creeks, short and uncertain in their course, rising apparently in one plain, to spread over and terminate in another, for had we gone more to the westward in our course than we did, it is probable we should never have known of the existence of any of them. I was truly thankful that we had thus fallen upon them, and considering how much our further success depended on their continuance, I began to hope that we should find them a permanent feature in the country.

About this period and two or three days previously, we observed a white bank of clouds hanging upon the northern horizon, and extending from N.E. to N.W. No wind affected it, but without in the least altering its shape, which was arched like a bow, it gradually faded away about 3 P.M. Could this bank have been over any inland waters?

At the point to which I have now brought the reader, we were in lat. 27° 38′ S., and in long. 140° 10′ by account, and here, as I have observed, as in our journey to Lake Torrens, the N.E. winds were invariably cold. On the 22nd we crossed the creek, and traversed a large plain on the opposite side that was bounded in the distance by a line of sand hills. On this plain were portions of ground perfectly flat, raised some 12 or 18 inches above its general level; on these, rhagodia bushes were growing, which in the distance looked like large trees, in consequence of the strong refraction. The lower ground of these

plains had little or no vegetation upon it, but bore the appearance of land on which water has lodged and subsided; being hard and baked in some places, but cracked and blistered in others, and against the sides of the higher portions of the plain, a line of sticks and rubbish had been lodged, such as is left by a retiring tide, and from this it seemed that the floods must have been about a foot deep on the plain when it was last inundated. At 4½ miles we reached its western extremity, and ascending the line of sand hills by which it is bounded on that side, dropped down to another plain, and at six miles intersected a creek with a deep broad and grassy bed, but no water. A high row of gum trees marked its course from a point rather from the southward of east to the north-north-west. Crossing to the opposite side we ascended another sand hill by a gradual rise, and again descended to another plain, at the farther extremity of which we could indistinctly see a dark line of trees. Arriving at these after a ride of six miles, we were stopped by another creek. Its banks were too steep for the cart, and we consequently turned northward and traced it downwards for four miles before we found a convenient spot at which to halt. The ground along the creek side was of the most distressing nature; rent to pieces by solar heat, and entangled with polygonum twisted together. We passed several muddy water-holes, and at length stopped at a small clear deep pond. The colour of the water, a light green, at once betrayed

its quality ; but fortunately for us, though brackish it was still tolerable, much better than the gritty water we had passed. There was however but little vegetation in its neighbourhood, the grass being coarse and wiry. Both on this creek and some others we had passed, we observed that the graves of the natives were made longitudinally from north to south, and not as they usually are from east to west.

The evening we stopped at this place was very fine. We had descended into the bed of the creek, and Mr. Browne and I were reclining on the ground, looking at the little pond, in which the bank above was clearly reflected. On a sudden my companion asked me if I had brought a small hook with me, as he had taken it into his head that there were fish in the pond. Being unable to supply his wants, he got a pin, and soon had a rough kind of apparatus prepared, with which he went to the water ; and, having cast in his bait, almost immediately pulled

out a white and glittering fish, and held it up to me in triumph. I must confess that I was exceedingly astonished, for the first idea that occurred to my mind was—How could fish get into so isolated a spot? In the water-holes above us no animals of the kind could have lived. How then were we to account for their being where we found them, and for the no less singular phenomenon of brackish waters in the bed of a fresh water creek? These were exceedingly puzzling questions to me at the time, but, as the reader will find, were afterwards explained. Mr. Browne succeeded in taking no less than thirteen fish, and seemed to think that they were identical with the silver perch of the Murray, but they appeared to me to be a deeper and a thinner fish. Although none of them exceeded six inches in length, they were very acceptable to men who were living on five pounds of flour only a-week.

The night we stayed here was very dark, and about 11 P.M. the horses which had been turned down the creek by Flood, rushed violently past our fire, as if they had been suddenly alarmed. They were found at a distance of five miles above us the next morning, but we could never discover why they had taken fright. Their recovery detained us longer than our usual hour, but at nine we mounted, and, crossing the creek at three-quarters of a mile, ascended a hill, connected with several others by sandy valleys, and saw that the creek, a little below where we crossed it, turned to the west. We could

trace its course, by the trees on its bank, for several miles. From the hills we descended to a country of a very different character from that which I have been describing. As we overlooked it from the higher ground it was dark, with a snow-white patch of sand in the centre; on traversing it we found that its productions were almost entirely samphire-bushes growing on a salty soil.

The white patch we had seen from a distance was the dry bed of a shallow salt lagoon also fringed round with samphire bushes, and being in our course we crossed it. There was a fine coating of salt on its surface, together with gypsum and clay, as at Lake Torrens. The country for several miles round it was barren beyond description, and small nodules of limestone were scattered over the ground in many places. After leaving the lagoon, which though moist had been sufficiently hard to bear our weight, we passed amidst tortuous and stunted box-trees for about three miles; then crossed the small dry and bare bed of a water-course, that was shaded by trees of better appearance, and almost immediately afterwards found ourselves on the outskirts of extensive and beautifully grassed plains, similar to that on which I had fixed the Depôt, and most probably owing, like them, their formation to the overflow of the last, or some other creek we had traced. The character of the country we had previously travelled over being so very bad, the change to the park-like scene now before us was very remarkable. Like the

plains at the Depôt, they had gum-trees all round them, and a line of the same trees running through their centre.

Entering upon them on a north-west course, we proceeded over the open ground, and saw three dark figures in the distance, who proved to be women gathering seeds. They did not perceive us until we were so near to them that they could not escape, but stood for some time transfixed with amazement. On riding up we dismounted, and asked them by signs where there was any water, to which question they signified most energetically that there was none in the direction we were going, that it was to the west. One of these women had a jet black skin, and long curling glossy ringlets. She seemed indeed almost of a different race, and was, without doubt, a secondary object of consideration with her companions; who, to secure themselves I fancy, intimated to us that we might take her away; this, however, we declined doing. One of the women went on with her occupation of cleaning the grass seeds she had collected, all the time we remained, humming a melancholy dirge. On leaving them, and turning to the point where they said no water was to be found, they exhibited great alarm, and followed us at a distance. Soon after we passed close to some gum-trees and found a small dry channel under a sand hill on the other side, running this down we came suddenly on two bough huts, before which two or three little urchins were playing, who, the moment

they saw us, popped into the huts like rabbits. Directly opposite there was a shallow puddle rather than a pool of water, and as Joseph had just met with an accident I was obliged to stop at it. I was really sorry to do so, however, for I knew our horses would exhaust it all during the night, and I was reluctant to rob these poor creatures of so valuable a store, I therefore sent Flood to try if he could find any lower down; but, as he failed, we unsaddled our horses and sat down.

The women who had kept us in sight were then at the huts, to which Mr. Browne and I walked. In addition to the women and children, there was an old man with hair as white as snow. As I have observed, there was a sand hill at the back of the huts, and as we were trying to make ourselves understood by the women a native made his appearance over it; he was painted in all the colours of the rainbow, and armed to the teeth with spear and shield. Great was the surprise and indignation of this warrior on seeing that we had taken possession of his camp and water. He came fearlessly down the hill, and by signs ordered us to depart, threatening to go for his tribe to kill us all, but seeing that his anger only made us smile, he sat down and sulked. I really respected the native's bravery, and question much if I should have shewn equal spirit in a similar situation. Mr. Browne's feelings I am sure corresponded with my own, so we got up and left him, with an intention

on my part to return when I thought he had cooled down to make him some presents, but when we did so he had departed with all his family, and returned not to the neighbourhood again. We had preserved two or three of the fish; and in the hope of making the women understand us better, produced them, on which they eagerly tried to snatch them from us, but did not succeed. They were evidently anxious to get them to eat, and I mention the fact, though perhaps telling against my generosity on the occasion, to prove how rare such a feast must be to them.

As I had foreseen, our horses finished all the water in the puddle during the night, and we left at seven in the following morning, taking up our usual N.N.W. course, from which, up to this point we had not deviated. We passed for about eight miles through open box-tree forest, with a large grassy flat, backed by sand hills to the right. The country indeed had an appearance of improvement. There was grass under the trees, and the scenery as we rode along was really cheerful. I began to hope we were about to leave behind us the dreary region we had wandered over, and that happier and brighter prospects would soon open out, to reward us for past disappointment. Mr. Browne and I even ventured to express such anticipations to each other as we journeyed onwards. At eight miles however, all our hopes were annihilated. A wall of sand suddenly rose before us, such as we had not before seen;

lying as it did directly across our course we had no choice but to ascend. For 20 miles we toiled over as distressing a country as can be imagined, each succeeding sand ridge assumed a steeper and more rugged character, and the horse with difficulty pulled the cart along. At 13 miles we crossed a salt lagoon similar to the one I have described to the S.E. of the plains on which we had last seen the natives, but larger. Near it there was a temporary cessation of the fearful country we had just passed, but it was only temporary, the sand ridges again crossed our path, and at five or seven miles from the lagoon we pulled up for the night in a small confined valley in which there was a little grass, our poor horses sadly jaded and fatigued, and our cart in a very rickety state. We could not well have been in a more trying situation, and as Mr. Browne, and Lewis (one of the men I had with me), went to examine the neighbourhood from a knoll not far off, while there was yet light, I could not but reflect on the singular fatality that had attended us. I had little hope of finding water, and doubted in the event of disappointment whether we should get any of the horses back to the Fish-pond, the nearest water in our rear. Mr. Browne was late in returning to me, but the news he had to communicate dispelled all my fears. He had, he told me, from the summit of the knoll to which he went, observed something glittering in a dark looking valley about three miles to the N.W., and had walked

down to ascertain what it was, when to his infinite delight he found that it was a pool of water, covering no small space amongst rocks and stones. It was too late to avail ourselves, however, of this providential discovery; but we were on our way to the place at an early hour. There we broke our fast, and I should have halted for the day to repair the cart, but there was little or no grass in the valley for the horses, so that we moved on after breakfast; but coming at less than a mile to a little grassy valley in which there was likewise water, we stopped, not only to give the animals a day of rest, and to repair the cart, but to examine the country, and to satisfy ourselves as to the nature of the sudden and remarkable change it had undergone. With this view, as soon as the camp was formed, and the men set to repair the cart, Mr. Browne and I walked to the extremity of a sandy ridge that bore N.N.W. from us, and was about two miles distant. On arriving at this point we saw an immense plain, occupying more than one half of the horizon, that is to say, from the south round to the eastward of north. A number of sandy ridges, similar to that on which we stood, abutted upon; and terminated in this plain like so many head lands projecting into the sea. The plain itself was of a dark purple hue, and from the elevated point on which we stood appeared to be perfectly level.

There was a line of low trees far away upon it to the N.E.; and to the north, at a great distance, the

sun was shining on the bright point of a sand hill. The plain was otherwise without vegetation, and its horizon was like that of the ocean. In the direction I was about to proceed, nothing was to be seen but the gloomy stone-clad plain, of an extent such as I could not possibly form any just idea. Ignorant of the existence of a similar geographical feature in any other part of the world, I was at a loss to divine its nature. I could not however pause as to what was to be done, but on our return to the party prepared to cross it. I was fully aware, before leaving the old Depôt, that as soon as we got a few miles distant from the hills, I should be unable to continue my angles, and should thenceforth have to rely on bearings. So long as we were chaining there was no great fear of miscalculating position; so far then as the second Depôt, it would not be difficult for any other traveller to follow my course. From that point, as I have already stated, I ran on a compass bearing of 25° to the west of north, or on a N.N.W. course, and adhered to it up to the point I have now led the reader, a new bearing having been taken on some object still farther in advance from every sand hill we ascended. This appeared to me to be the most satisfactory way of computing our distances and position, for the latitude necessarily correcting both, the amount of error could not be very great. I now found, on this principle, that I was in latitude 27° 4′ 40″ south, and in longitude, by account, 139° 10′ east.

On reaching the cart I learnt that Lewis, while wandering about, had stumbled on a fine sheet of water, in a valley about two miles to the south of us, and that Joseph and Flood had shot a couple of ducks, or I should have said widgeon of the common kind.

On the 26th I directed Flood to keep close under the sandy ridge, to the termination of which Mr. Browne and I had been, and to move into the plain on the original bearing of 25° to the west of north until I should overtake him; Mr. Browne and I then mounted and went to see the water Lewis had discovered, for which we had not had time the previous evening. It was a pretty little sequestered spot surrounded by sand hills, excepting to the N.W. forming a long serpentine canal, apparently deep, and shaded by many gum-trees; there were a numbers of ducks on the water, but too wild to allow us within shot. Both Mr. Browne and I were pleased with the spot, and could not but congratulate ourselves in having such a place to fall back upon, if we should be forced to retreat, as it had all the promise of durability for some weeks to come. We overtook the drays far upon the plains, and continued our journey for twenty miles, when I halted on a bare piece of sandy ground on which there were a few tussocks of grass, and a small puddle of water. On travelling over the plain we found it undulating, with shining hollows in which it was evident water sometimes collects. The stones, with which the ground was so thickly covered as to exclude vegeta-

•tion, were of different lengths, from one inch to six, they had been rounded by attrition, were coated with oxide of iron, and evenly distributed. In going over this dreary waste the horses left no track, and that of the cart was only visible here and there. From the spot on which we stopped no object of any kind broke the line of the horizon; we were as lonely as a ship at sea, and as a navigator seeking for land, only that we had the disadvantage of an unsteady compass, without any fixed point on which to steer. The fragments covering this singular feature were all of the same kind of rock, indurated or compact quartz, and appeared to me to have had originally the form of parallelograms, resembling both in their size and shape the shivered fragments, lying at the base of the northern ranges, to which I have already had occasion to call attention.

Although the ground on which we slept was not many yards square, and there was little or nothing on it to eat, the poor animals, loose as they were, did not venture to trespass on the adamantine plain by which they were on all sides surrounded.

On the 27th we continued onwards, obliged to keep the course by taking bearings on any prominent though trifling object in front. At ten miles there was a sensible fall of some few feet from the level of the Stony Desert, as I shall henceforth call it, and we descended into a belt of polygonum of about two miles in breadth, that separated it from another feature, apparently of equal extent but of

very different character. This was an earthy plain, on which likewise there was no vegetation; resembling in appearance a boundless piece of ploughed land, on which floods had settled and subsided — the earth seemed to have once been mud and then dried. It had been impossible to ascertain the fall or dip of the Stony Desert, but somewhat to the west of our course on the earthy plain there were numerous channels, which as we advanced seemed to be making to a common centre towards the N.E. Here and there a polygonum bush was growing on the edge of the channels; and some of them contained the muddy dregs of what had been pools of water. Over this field of earth we continued to advance almost all day, without knowing whether we were getting still farther into it, or working our way out. About an hour before sunset, this point was settled beyond doubt, by the sudden appearance of some hills over the line of the horizon, raised above their true position by refraction. They bore somewhat to the westward of north, but were too distant for speculation upon their character. It was very clear, however, that there was a termination to the otherwise apparently boundless level on which we were, in that direction, if not in any other. Our view of these hills was but transient, for they gradually faded from sight, and in less than ten minutes had entirely disappeared. Shortly afterwards some trees were seen in front, directly in the line of our course; but, as they were at a great distance, it was near sun-

set before we reached them; and finding they were growing close to a small channel (of which there were many traversing the plain) containing a little water, we pulled up at them for the night, more especially as just at the same moment the hills, before seen, again became visible, now bearing due north. To scramble up into the box-trees and examine them with our telescopes was but the work of a moment, still it was doubtful whether they were rock or sand. There were dark shadows on their faces, as if produced by cliffs, and anxiously did we look at them so long as they continued above the horizon, but again they disappeared and left us in perplexity. They were, however, much more distinct on the second occasion, and Mr. Browne made out a line of trees, and what he thought was grass on our side of them.

There was not a blade of anything for our horses to eat round about our solitary bivouac, so that we were obliged to fasten them to the trees, only three in number, and to the cart. There was, however, a dark kind of weed growing in the creek, and some half dozen stalks of a white mallow, the latter of which Flood pulled up and gave to the horses, but they partook sparingly of them, and kept gnawing at the bark of the trees all night long.

In reference to our movements on the morrow, it became a matter of imperative necessity to get the poor things to where they could procure some food

as soon as possible; I determined, therefore, to make for the hills, whatever they might be, at early dawn. The night was exceedingly cold, the thermometer falling to freezing point. At day-break there was a heavy fog, so we did not mount until half-past six, when the atmosphere was clearer, the fog having in some measure dispersed. We then proceeded, and for the first time since commencing the journey turned from the course 332°, or one of N.N.W. to one due north, allowing 5° for easterly variation. My object was to gain the trees Mr. Browne had noticed, as soon as possible, but did not reach them until a quarter to ten. We then discovered that they lined a long muddy channel, in which was a good deal of water, but not a blade of vegetation anywhere to be seen. I turned back, therefore, to a small sandy rise, whereon we had observed a few tufts of grass, and allowed the animals to pick what they could. At this spot we were about a mile and a half from the hills, which now stood before us, their character fully developed, and whatever hope we might have before encouraged of the probability of a change of country on this side of the desert, was at one glance dispelled. Had these hills been as barren as the wastes over which we had just passed, so as they had been of stone we should have hailed them with joy. But, no!—sandy ridges once more rose up in terrible array against us, although we had left the last full 50

miles behind, even the animals I think regarded them with dismay.

From the little rising ground on which we had stopped, we passed to the opposite side of the creek, which apparently fell to the east, and traversing a bare earthy plain, we soon afterwards found ourselves ascending one of the very hills we had been examining with so much anxiety through a glass the evening before. It was flanked on either side by other hills, that projected into and terminated on this plain, as those we had before seen terminated in the Stony Desert; and they looked, as I believe I have already remarked, like channel head-lands jutting into the sea, and gradually shutting each other out. The one we ascended was partly composed of clay and partly of sand; but the former, protruding in large masses, caused deep shadows to fall on the faces and gave the appearance of a rocky cliff to the whole formation, as viewed from a distance.

Broad and striking as were the features of the landscape over which the eye wandered from the summit of this hill, I have much difficulty in describing them.

Immediately beneath was the low region from which we had just ascended, occupying the line of the horizon from the north-east point, southwards, round to the west. Southward, and for some degrees on either side, a fine dark line met the sky;

but to the north-east and south-west was a boundless extent of earthy plain. Here and there a solitary clump of trees appeared, and on the plain, at the distance of a mile to the eastward, were two moving specks, in the shape of native women gathering roots, but they saw us not, neither did we disturb them,—their presence indicated that even these gloomy and forbidding regions were not altogether uninhabited.

As the reader will, I have no doubt, remember, the sandy ridges on the S.E. side of the Desert were running at an angle of about 18° to the west of north, having gradually changed from the original direction of about 6° to the eastward of that point. I myself had marked this gradual change with great interest, because it was strongly corroborative of my views as to the course the current I have supposed to have swept over the central parts of the continent must have taken, *i. e.* a course at right angles to the ridges. It is a remarkable fact that here, on the northern side of the Desert, and after an open interval of more than 50 miles, the same sand ridges should occur, running in parallel lines at the same angle as before, into the very heart of the interior, as if they absolutely were never to terminate. Here, on both sides of us, to the eastward and to the westward, they followed each other like the waves of the sea in endless succession, suddenly terminating as I have already observed on the vast plain into which they ran. What, I will ask, was I to con-

clude from these facts?—that the winds had formed these remarkable accumulations of sand, as straight as an arrow lying on the ground without a break in them for more than ninety miles at a stretch, and which we had already followed up for hundreds of miles, that is to say across six degrees of latitude? No! winds may indeed have assisted in shaping their outlines, but I cannot think, that these constituted the originating cause of their formation. They exhibit a regularity that water alone could have given, and to water, I believe, they plainly owe their first existence. It struck me then, and calmer reflection confirms the impression, that the whole of the low interior I had traversed was formerly a sea-bed, since raised from its sub-marine position by natural though hidden causes; that when this process of elevation so changed the state of things, as to make a continuous continent of that, which had been an archipelago of islands, a current would have passed across the central parts of it, the direction of which must have been parallel to the sandy ridges, and consequently from east to west, or nearly so—*that* also being the present dip of the interior, as I shall elsewhere prove. I further think, that the line of the Stony Desert being the lowest part of the interior, the current must there have swept along it with greater force, and have either made the breach in the sandy ridges now occupied by it, or have prevented their formation at the time when, under more favourable circumstances, they were thrown

up on either side of it. I do not know if I am sufficiently clear in explanation, finding it difficult to lay down on paper all that crowds my own mind on this subject; neither can I, without destroying the interest my narrative may possess, now bring forward the arguments that gradually developed themselves in support of the foregoing hypothesis.

Although I had been unable to penetrate to the north-west of Lake Torrens, that basin appeared to me to have once formed part of the back waters of Spencer's Gulf; still I long kept in view the possibility of its being connected with some more central body of water. Having however gained a position so much higher to the north, and almost on the same meridian, and having crossed so remarkable a feature as the Stony Desert (which, as I suppose, was once the focus of a mighty current, to judge from its direction passing to the westward), I no longer encouraged hopes which, if realized, would have been of great advantage to me, or regretted the circumstances by which I was prevented from more fully examining the north-east and northern shores of Lake Torrens. I felt doubtful of the immediate proximity of an inland sea, although many circumstances combined to strengthen the impression on my mind that such a feature existed on the very ground over which we had made our way. I had assuredly put great credit on the statements of the solitary old man who visited the Depôt, but his information as far as we could judge had

turned out to be false; and I was half angry with myself for having been so credulous, well aware as I was of the exaggerations of the natives, and how little dependence can be placed on what they say.

CHAPTER IX.

FLOOD'S QUICK SIGHT — FOREST FULL OF BIRDS — NATIVE WELL—BIRDS COLLECT TO DRINK—DANGEROUS PLAIN —FLOOD'S HORSE LOST—SCARCITY OF WATER — TURN NORTHWARD—DISCOVER A LARGE CREEK—BRIGHT PROSPECTS — SUDDEN DISAPPOINTMENT — SALT LAGOON — SCARCITY OF WATER—SALT WATER CREEK—CHARACTER OF THE INTERIOR — FORCED TO TURN BACK — RISK OF ADVANCING—THE FURTHEST NORTH—RETURN TO AND EXAMINATION OF THE CREEK—PROCEED TO THE WESTWARD—DREADFUL COUNTRY—JOURNEY TO THE NORTH —AGAIN FORCED TO RETURN — NATIVES — STATION ON THE CREEK—CONCLUDING REMARKS.

REFLECTING on the singular character of the country below me, as I stood on the pointed termination of the ridge the party had just ascended, I could not but think how fortunate it was we had not found it in a wet state, for in such a case to cross it would have been impossible. I felt assured indeed, from the moment we set foot on it, that in the event of rain, while we should be in the more distant interior, return would be altogether impracticable, but we had neither time to pause on, or provide against, the consequences of any heavy fall that might have set in. I do not think that this flashed across the minds of any of the party excepting

my own, who would not have been justified in leading men forward as I was doing, without weighing every probable chance of difficulty or success.

As the line of the sand ridges was nearly parallel to that of our course, we descended to a polygonum flat, and keeping the ridge upon our left, proceeded on a bearing of 342°, or on a N.N.W. course, up a kind of valley. Whilst thus riding leisurely along, Flood, whose eyes were always about him, noticed something dark moving in the bushes, to which he called our attention. It was a dark object, and was then perfectly stationary; as Flood however insisted that he saw it move, Mr. Browne went forward to ascertain what it could be, when a native woman jumped up and ran away. She had squatted down and put a large trough before her, the more effectually to conceal her person, and must have been astonished at the quickness of our sight in discovering her. We were much amused at the figure she cut, but as she exhibited great alarm Mr. Browne refrained from following her; after getting to some distance she turned round to look at us, and then walked off at a more leisurely pace. At the distance of about four miles, the sandy ridge made a short turn, and we were obliged to cross over to the opposite side to preserve our course. On gaining the top of the ridge, we saw an open box-tree forest, and a small column of smoke rising up from amongst the trees, towards which we silently bent our steps. Our approach had however been noticed by the natives, who no

doubt were at the place not a minute before, but had now fled. We then pushed on through the forest, the ground beneath our horses' feet being destitute of vegetation, and the soil composed of a whitish clay, so peculiar to the flooded lands of the interior. The farther we entered the depths of the forest, the more did the notes of birds assail our ears. Cockatoos, parrots, calodera, pigeons, crows, etc., all made that solitude ring with their wild notes, and as (with the exception of the ducks on the southern side of the Stony Desert) we had not seen any of the feathered race for many days, we were now astonished at their numbers and variety. About an hour before sunset we arrived on the banks of a large creek, with a bed of couch grass, but no water. The appearance of this creek, however, was so promising that we momentarily expected to see a pond glittering before us, but rode on until sunset ere we arrived at a place which had attracted our attention as we approached it. Somewhat to the right, but in the bed of the creek, there were two magnificent trees, the forest still extending back on either side. Beneath these trees there was a large mound of earth, that appeared to have been thrown up. On reaching the spot we discovered a well of very unusual dimensions, and as there was water in it, we halted for the night.

On a closer examination of the locality, this well appeared to be of great value to the inhabitants. It was 22 feet deep and 8 feet broad at the top. There

was a landing place, but no steps down to it, and a recess had been made to hold the water, which was slightly brackish, the rim of the basin being also incrusted with salt. Paths led from this spot to almost every point of the compass, and in walking along one to the left, I came on a village consisting of nineteen huts, but there were not any signs of recent occupation. Troughs and stones for grinding seed were lying about, with broken spears and shields, but it was evident that the inhabitants were now dispersed in other places, and only assembled here to collect the box-tree seeds, for small boughs of that tree were lying in heaps on the ground, and the trees themselves bore the marks of having been stripped. There were two or three huts in the village of large size, to each of which two smaller ones were attached, opening into its main apartment, but none of them

had been left in such order as those I have already described.

It being the hour of sunset when we reached the well, the trees were crowded with birds of all kinds coming for water, and the reader may judge of the straits to which they were driven, when he learns that they dived down into so dark a chamber to procure the life-sustaining element it contained. The wildest birds of the forest were here obliged to yield to the wants of nature at any risk, but notwithstanding, they were exceedingly wary; and we shot only a few cockatoos. The fact of there being so large a well at this point, (a work that must have required the united labour of a powerful tribe to complete), assured us that this distant part of the interior, however useless and forbidding to civilized man, was not without inhabitants, but at the same time it plainly indicated, that water must be scarce. Indeed, considering that the birds of the forest had powers of flight to go where they would, I could not but regard it as a most unfavourable sign, that so many had collected here. Had this well contained a sufficiency of water, it would have been of the utmost value to us, but there was not more than enough for our wants, so that, although I should gladly have halted for a day, as our horses were both ill and tired, necessity obliged me to continue my journey, and accordingly on the 29th we resumed our progress into the interior on our original course. At about a mile we broke through the forest, and en-

tered an open earthy plain, such as I believe man never before crossed. Subject to be laid under water by the creek we had just left, and to the effects of an almost vertical sun, its surface was absolutely so rent and torn by solar heat, that there was scarcely room for the horses to tread, and they kept constantly slipping their hind feet into chasms from eight to ten feet deep, into which the earth fell with a hollow rumbling sound, as if into a grave. The poor horse in the cart had a sad task, and it surprised me, how we all at length got safely over the plain, which was between five and six miles in breadth, but we managed it, and at that distance found ourselves on the banks of another creek, in the bed of which there was plenty of grass but no water. I was however exceedingly anxious to give the horses a day's rest; for several of them were seriously griped, and had either taken something that disagreed with them, or were beginning to suffer from constant work and irregularity of food. Mr. Browne too was unwell and Lewis complaining, so that it was advisable to indulge ourselves if possible. I therefore determined to trace the creek downwards, in the hope of finding water, and at a mile came upon a shallow pond where I gladly halted, for by this time several of the horses had swollen to a great size, and were evidently in much pain.

After arranging the little bivouac our attention was turned to the horses, and Mr. Browne found it necessary to bleed Flood's horse, to allay the inflam-

matory symptoms that were upon him. Still however he got worse, and no remedy we had in our power to apply seemed to do him good. The poor animal threw himself down violently on the ground, and bruised himself all over, so that we were obliged to fasten him up, but as there appeared to be no fear of his wandering, at sunset he was allowed to be loose. He remained near me for the greater part of the night, and was last seen close to where I was lying, but in the morning was no where to be found, and although we searched for a whole day, and made extensive sweeps to get on his track we never saw him more, and concluded he had died under some bush. This was the horse we recovered on the Murray, the same that had escaped from the government paddock in Adelaide. The other animals had in some measure recovered, and the additional day of rest they got while we were searching for Flood's horse, enabled me to resume my journey on the last day of August. Our course being one of 335° to the west of north, or nearly N.N.W., and that of the sandy ridges being 340° we necessarily crossed them at a very acute angle, and the horses suffered a good deal. In the afternoon we travelled over large bare plains, of a most difficult and distressing kind, the ground absolutely yawning underneath us, perfectly destitute of vegetation, and denuded of timber, excepting here and there, where a stunted box-tree was to be seen. While on the sand hills, the general covering of

which was spinifex, there were a few hakea and low shrubs. On such ground as that whereon we were travelling, it would have been hopeless to look for water, nevertheless our search was constant, but we were obliged to halt without having found any, and to make ourselves as comfortable as we could. All the surface water left by the July rain had entirely disappeared, and what now remained even in the creeks was muddy and thick. It was indeed at the best most disgusting beverage, nor would boiling cause any great sediment. Every here and there, as we travelled along, we passed some holes scooped out by the natives to catch rain, and in some of these there was still a muddy residuum; we moreover observed that the inhabitants of this desert made these holes in places the best adapted to their purpose, where if the slightest shower occurred, the water falling on hard clay would necessarily run into them.

The circumstances under which we halted in the evening of the 31st of August were very embarrassing. It was evident that the country into which we were now advancing, was drier and more difficult than the country we had left behind. It was impossible, indeed, to hope that the animals would get on, if it should continue as we had found it thus far. There were numerous high ridges of sand to the westward, in addition to those on the plains, and so full of holes and chasms were the latter, that the horses would soon have been placed *hors de combât*, if they had continued to traverse them. Moreover, I

could not but foresee that unless I used great precaution our retreat would be infallibly cut off. Whatever water we had passed, since the morning we commenced our journey over the Stony Desert, was not to be depended upon for more than four or five days, and although we might reckon with some certainty on the native well in the box-tree forest, the supply it had yielded was so very small that we could not expect to obtain more from it than would suffice ourselves and one or two of the horses. Taking all these matters into consideration, I determined on once more turning to the north for a day or two, in order that by keeping along the flats, close under the ridges, I might get firmer travelling for the cart, and in the expectation, that we should be more likely to find water in thus doing, than by crossing the succession of ridges. Accordingly, on the 1st of September, we started on a course of 6° to the west of north, or a N. $\frac{1}{2}$ W. course, that, allowing for variation, being within $1\frac{1}{2}$ points of a due north course. On this we went up the flat where we had slept. By keeping close to the ridges we found, as I had anticipated, firmer ground, though the centre of the flat was still of the worst description. There were a few small box-trees to be seen as we passed along, but scarcely any minor vegetation. At about nine miles we were attracted by the green appearance of some low polygonum bushes, to which we went, and under them found two small puddles of water, that we might easily have passed. They must have been three feet deep

after the rains, but were now barely five inches, and about the size of a loo table. However, we had no choice, and as the horse had suffered so much from the rickety motion of the cart, caused by the inequalities of the ground, and there was a silky kind of grass growing sparingly around, I stopped here for the rest of the day to effect necessary repairs. When, however, we came to examine the wheels, we found that so many of the spokes were shivered and had shrunk, that Lewis got on but slowly, renewing only such as were found absolutely useless; we were consequently detained at this point another day; but on the 3rd resumed our journey up the flat, and at two miles crossed a small sandy ridge into the opposite flat, and at five miles stopped at a second ridge of some height for Lewis and Joseph, who were a good way behind with the cart. On coming up, they informed us that they had fallen in with a tribe of natives, twelve in number, shortly after starting, and had remained some time with them. They were at a dirty puddle, such as we had left, and were at no great distance from our little bivouac. Joseph good-naturedly gave one of them his knife, but he could not understand a word they said.

After crossing the sand ridge, we kept on the edge of the flats, as I have said, for the sake of the horses. The ridges had now become very long, and varied in breadth from a few hundred yards to a mile. Box-trees were scattered over them, and, although gene-

rally bare, they were not altogether destitute of grass or herbage; the ridges of sand, on the contrary, still continued unbroken, and several were covered with spinifex; but on the whole the country appeared to be improving, and the fall of waters being decidedly somewhat to the eastward of south, or towards the Stony Desert, I entertained hopes that we had crossed the lowest part of the interior, and reached the southerly drainage. We were again fortunate in coming on another pond at 20 miles, where we halted, the country round about us wearing an improved appearance. Still our situation was very precarious, and we were risking a great deal by thus pushing forward, for although I call the hollows (in which we found the water) ponds, they were strictly speaking the dregs only of what had been such, and were thick, black, and muddy; but the present aspect of the country led us to hope for a favourable change, and on the morning of the 4th we still held our northerly course up the flat, on which we had travelled the greater part of the day before. As we advanced, it became more open and grassy, and at three miles we found a small supply of very tolerable water in the bed of a shallow watercourse. We had ridden about ten miles from the place where we had slept, and Mr. Browne and I were talking together, when Flood, who was some little distance a-head, held up his hat and called out to us. We were quite sure from this circumstance that he had seen something unusual, and on riding up were

astonished at finding ourselves on the banks of a beautiful creek, the bed of which was full both of water and grass. The bank on our side was twenty feet high, and shelved too rapidly to admit of our taking the horses down, but the opposite bank was comparatively low.

Immediately within view were two large sheets of water around the margin of which reeds were growing; but nevertheless these ponds were exceedingly shallow. The direction of this fine watercourse was N. by W. and S. by E., coming from the first and falling to the last point, thus enabling us to trace it up without changing our own. A little above where we intersected its channel two small tributaries join it, or, I am more inclined to think, two small branches go from it; for we had apparently been rising as we came up the valley, but more especially as the direction from which they appeared to come (the S.W.), was almost opposite to the course of the creek itself. On proceeding upwards we observed that there were considerable intervals, along which the channel of the creek was dry; but where such was the case, it was abundantly covered with couch grass, of which the horses were exceedingly fond. We passed several sheets of water, however, some of which had a depth of two feet, although the greater number were shallow. After following it for ten miles, we halted with brighter prospects, and under more cheering circumstances than we had any right to anticipate; but, although the

creek promised so well, the valley on either side of it was more than usually barren and scrubby, and was bounded in, as usual, by high ridges of sand, that still continued to head us in unbroken lines, and were the most prominent and prevailing feature of the interior; and although we were now within two degrees of the Tropics, our latitude at this point being 25° 34′ 19″, we had not as yet observed the slightest change in the vegetation, or anything to intimate our approach to a tropical country.

On the 5th we started on a course of 340°, the upward course of the creek. At two miles it turned to the N. E, but soon came round again to N.W., and afterwards kept a general course of 10° to the west of north. Its channel gradually contracted as we advanced, and the polygonum grew to the size of a very large bush upon its banks. At nine miles we arrived at a creek junction from the S.W. and traced it over grassy plains, on which some Bauhimia were growing, but finding that it took its rise in a kind of marsh occupying the centre of the plain into which it had led us, we turned away to the main creek. The country now became more open, and tertiary limestone shewed itself on the plains, and at a short distance from the creek a vein of milky quartz cropped out near a pretty sheet of water. As we proceeded upwards sandstone traversed its bed in several places; in some degree contracting its channel. A short time before we halted we passed a very large and long sheet of water, on which

there were a good many wild fowl, so very shy, that although the brush grew close to the banks of the creek, so as to favour our creeping upon them, we could not shoot any.

Notwithstanding that the creek had thus changed its appearance from what it was where we first came upon it (its waters being muddy with less grass in its channel), we had no reason to suppose that it would disappoint our hopes; we therefore resumed our journey on the morning of the 6th, without any idea that we should meet with any check in the course of the day. As the immediate neighbourhood of this creek had become scrubby, we kept wide of it and travelled for 12 miles, on a bearing of 340, over flats destitute of all manner of vegetation, but thinly scattered over with the box, acacia and the Bauhimia. These flats were still bounded on either side by high sandy ridges, covered with spinifex, excepting on their summits, which were perfectly bare. The view from them both to the eastward and westward was, as it were, over a sandy sea; ridge after ridge succeeding each other as far as the eye could stretch the vision. To the north the flat appeared to terminate at a low sand hill bearing 335° or N.N.W. $\frac{1}{2}$ W.

When we again came on the creek, there was an abundance both of water and grass in its bed, but just above, the channel suddenly turned to the N.E. and in again keeping wide of it to avoid the inequalities of

the ground, we arrived at the little sand hill that had previously bounded our view, and on ascending it, found that immediately beneath us, there was a clear small lake, covered with wild fowl. The colour of the water immediately betrayed its quality, and we found on tasting that it was too salt to drink. An extensive grassy flat extended to the westward of the lake, bounded by box-trees, and the channel of the creek still held its course to the N.E. I could not therefore but suppose, that this was a junction from that point, and therefore determined on passing to the opposite side, in anticipation that I should again come on our old friend amidst the trees. We accordingly crossed at the bottom of the little lake, and in so doing found amidst the other herbage two withered stalks of millet.

The grassy woodland continued for several miles, and as it was evidently subject to flood, we were in momentary expectation of seeing a denser mass of foliage before us, as indicating the course of the creek, but we suddenly debouched upon open plains, bounded by distant sand hills. There was not now a tree to be seen, but samphire bushes were mixed with the polygonum growing round about; as the changes however in this singular and anomalous region had been so sudden and instantaneous, I still held on my course, but the farther I advanced into the plains the more did the ground betray a salt formation.

We halted an hour after sunset, under a sand

hill about 16 miles distant from the creek, without having succeeded in our search for water, for although we passed several muddy pools at which the birds still continued to drink they were too thick for our animals.

The prospect from the top of the sand hill under which we had formed our bivouac, was the most cheerless and I may add the most forbidding of any that our eyes had wandered over, during this long and anxious journey. To the west and north-west there were lines of heavy sand ridges, so steep and rugged as to deter me from any attempt to cross them with my jaded horses. To the north and north-east a dark green plain covered with samphire bushes (amidst which the dry beds of small salt lagoons, as white as snow, formed a singular and striking contrast) was to be seen extending for about eight miles. This plain was bounded by distant hills, the bright red tops of which gleamed, even in the twilight. I was here really puzzled what course to pursue, one only indeed was open to me—the north—unless I should determine to fall back on the creek; but I thought it better to advance, in the hope of being able to maintain my ground, and with the intention of halting for a few days at the first favourable point at which we should arrive, for my mind was filled with anxiety. It had pained me for some time, to see Mr. Browne daily suffering more and more, and although he continued to render me the most valuable assistance, a gloom hung

over him; he seldom spoke, his hands were constantly behind him, pressing or supporting his back, and he appeared unfit to ride. My men were also beginning to feel the effects of constant exposure, of ceaseless journeying, and of poverty of food, for all we had was 5 lbs. of flour and 2 oz. of tea per week; it is true we occasionally shot a pigeon or a duck, but the wildness of the birds of all kinds was perfectly unaccountable. The horses living chiefly on pulpy vegetation had little stamina, and were incapable of enduring much privation or hardship. No rain had fallen since July, nor was there any present indication of a change. Much as I desired it, I yet dreaded having to traverse such a country as that into which I was now about to plunge, in a wet state. With a soil of stiff tenacious clay, already soft from the moisture produced by the mixture of salt in it, I foresaw that in the event of heavy rain, I should be involved in almost inextricable difficulties, but the was no alternative.

On the morning of the 7th I sent Mr. Browne to the westward, to ascertain the nature of the country, and if by any chance he could again find the creek, and in case I had inadvertently mistaken the real creek for a tributary, I myself pushed on to the north, in the hope of intersecting it. Mr. Browne had not, however, been absent more than three-quarters of an hour, when he returned to inform me that he had been st pped by a salt creek, coming direct from the north, the bed of which was too soft for him to

cross. He said that its channel was white as snow, and that every reed and blade of grass on its banks, was encrusted with salt. Under an impression that as long as I should continue in the neighbourhood of, and on a course nearly parallel to this creek, I could not hope for any favourable change, I decided on crossing it, and with that view turned to the west; but finding the bed of the creek still too soft to admit of our doing so, I traced it upwards to the north, along a sandy ridge.

As Mr. Browne had informed me, its channel was glittering white, and thickly encrusted with salt, nor was there any water visible, but on going down to examine it in several places where the salt had the appearance of broken and rotten ice, we found that there were deep pools of perfect brine underneath, on which the salt floated, to the thickness of three or four inches. The marks of flood on the side of the sand hill shewed a rise of 12 feet above its ordinary level. At about a mile and a half we descended the sand hill on which we had previously kept, and ascended another, when we saw the basin of the creek immediately below us, but quite dry, and surrounded by sand hills. Crossing just below it, we proceeded on a course of 331° over extensive plains, covered with samphire, excepting where the beds of dry salt lagoons occurred. The ground was spongy and soft, and the cart wheels consequently sank deep into it. The plain was surrounded on all sides by sand hills, and that towards

which we were advancing appeared to run athwart our course instead of nearly parallel to it as heretofore. On gaining the summit, we found that other ridges extended from it in parallel lines, the ridge on which we stood forming the head of the respective valleys. A line of acacia, a species we had never found near water, was growing down the centre of each, and the fall of the country seemed again to be to the N.N.W.

Pushing down one of the valleys, the descent of which was very gradual, and keeping on such clear ground as there was, the ridges rose higher and higher on either side of us as we advanced, all grass and other vegetation disappeared, and at length both valley and sand ridge became thickly coated with spinifex.

At noon I halted, in the hope of obtaining a meridian altitude, but was disappointed, as also at night, the sky continuing obscured. At half-past two I pulled up, to consider whether or not it would be prudent to push on any farther. I calculated that we were now 34 miles from the creek, our only place of refuge. The horses had not tasted water from the early part of the day before, and we could not reasonably expect to get back to the salt lagoon under a day and a half. Our poor animals were not in a condition to endure much fatigue, although by going on steadily we had managed to get over a good deal of ground. It is, however, probable that I should not have had much consideration for them on this

occasion, if other matters had not weighed on my mind and influenced my decision. My men were all three unwell, and had been so for some days prior to this, and Mr. Browne's sufferings were such that I hesitated subjecting him to exertions greater than those he was necessarily obliged to submit to, and by which I felt assured he would ultimately be overcome. The treacherous character of the disease by which he had been attacked was well understood. I had no hope of any improvement in his condition until such time as he could procure change of food. So far from this I dreaded every day that he might be laid prostrate as Mr. Poole had been, that I should have to carry him about in a state of helplessness, and that he would ultimately sink as his unfortunate companion had done. Had other considerations, therefore, not influenced me, I could not make up my mind to persevere, and see my only remaining companion perish at my side, and that, too, under the most trying, I had almost said the most appalling circumstances, for no one who has not seen the scurvy in its worst character can form an idea of it. I could not run the risk of being obliged to lay and leave one, in that gloomy desert, whose attention and kindness to me had been uniform, and whose life I knew was valuable to very many. The time has now passed, and I thank God that Mr. Browne, who embarked in this expedition in reliance on my discretion, is now restored to health and strength; but although he has regained

his elasticity of spirits, and would, I have no doubt, again encounter even the same risks, he will yet remember Central Australia, and all that both of us there suffered.

The question for me however was, how far I should be justified in pushing forward under the almost certainty of inextricable embarrassment. I was now within reach of water, but another fifteen miles would have put it out of my reach; and though I felt I had the power, I did not see the advantage of perseverance, with so many difficulties staring me in the face. Our distance from the creek may appear to be short; but it will be borne in mind that our horses had now been more than a year living upon dry grass and salsolaceous plants; that from the time of our leaving the Depôt, they had been ridden from sunrise to sunset; and that at night they had been tethered and confined to a certain range, within which there was not sufficient for them to eat. They had already been too long without water or food, and therefore that which would have been a trifling journey to them under ordinary circumstances, under existing ones was beyond their strength. Nevertheless, though thus convincing my understanding, I felt that it required greater moral firmness to determine me to retrace my steps than to proceed onwards.

Regarding our situation in its most favourable point of view, my advancing would have been attended with extreme risk. If I had advanced, and

had found water, all would have been well for the time at least—if not, the extent of our misfortunes would only have been tested by their results. The first would have been the certain loss of all our horses, and I know not if one of us would ever have returned to the Depôt, then more than 400 miles distant, to tell the fate of his companions to those we had left there. On mature deliberation then, I resolved to fall back on the creek, and as my progress was arrested in this direction, to make that the centre of my movements, in trying every other point where I thought there might be a chance of success.

I saw clearly indeed that there was no help for this measure. We had penetrated to a point at which water and feed had both failed. Spinifex and a new species of mesembryanthemum, with light pink flowers on a slender stalk, were the only plants growing in that wilderness, if I except a few withered acacia trees about four feet high. The spinifex was close and matted, and the horses were obliged to lift their feet straight up to avoid its sharp points. From the summit of a sandy undulation close upon our right, we saw that the ridges extended northwards in parallel lines beyond the range of vision, and appeared as if interminable. To the eastward and westward they succeeded each other like the waves of the sea. The sand was of a deep red colour, and a bright narrow line of it marked the top of each ridge, amidst the sickly pink and glaucous coloured vegetation around. I fear I

have already wearied the reader by a description of such scenes, but he may form some idea of the one now placed before him, when I state, that, familiar as we had been to such, my companion involuntarily uttered an exclamation of amazement when he first glanced his eye over it. "Good Heavens," said he, "did ever man see such country!" Indeed, if it was not so gloomy, it was more difficult than the Stony Desert itself; yet I turned from it with a feeling of bitter disappointment. I was at that moment scarcely a degree from the Tropic, and within 150 miles of the centre of the continent. If I had gained that spot my task would have been performed, my most earnest wish would have been gratified, but for some wise purpose this was denied to me; yet I may truly say, that I should not thus have abandoned my position, if it had not been a measure of urgent and imperative necessity.

After what I have said, the feelings with which, on the morning of the 8th, we unloosed our horses from the bushes, to which they had all night been fastened, will easily be imagined. Just as we were about to mount, a flight of crested parroquets on rapid wing and with loud shriek flew over us, coming directly from the north, and making for the creek to which we were going—it was a singular occurrence just at that moment, and so I regarded it, for I had well nigh turned again. It proved, however, that to the very last, we had followed the line of migration with unerring precision. What would I not have

given for the powers of those swift wanderers of the air? But as it was I knew not how long they had been on the wing, or how far it was to the spot where they had last rested.

We passed the salt lagoon about 10 A.M. of the 9th, and stopped at a shallow but fresh water pond, a little below it, no less thankful than our exhausted animals that we were relieved from want, and the anxiety attendant on the last few days. On passing the lagoon we saw two natives digging for roots, but did not disturb them. In the afternoon, however, Joseph and Lewis saw twenty, who exhibited some unfriendly symptoms, and would not allow them to approach. They were not armed, but carried red bags. The food of the natives here, as in other parts of the interior, appeared to be seeds of various kinds. They had even been amongst the spinifex gathering the seed of the mesembryanthemum, of which they must obtain an abundant harvest. The weather, a little before this time, had been very cold, but was now getting warmer every day. As we had been advancing northwards towards the Tropics, I was not surprised at this. The sky also was clear, generally speaking, but we had observed for the last two or three months that it was invariably more cloudy at the full of the moon than at any other period.

As our recent journey proved that in going to the westward on the 5th inst., we had wandered from the creek, and that instead of holding on in that direction, it had changed its course considerably to the east-

ward of north, I determined, after we should all have had a day of rest, to trace the channel upwards, in order to satisfy myself as to what became of it. On the 10th, therefore, Mr. Browne and myself with Flood, mounted our horses, with the intention of tracing it up until we should have ascertained to what point it led. We passed through some very pretty scenery in the proximity of the lagoon where it was lightly wooded, with an abundance of grass; and I could not help reflecting with how much more buoyant and pleasurable feelings we should have explored such a country, when compared with the monotonous and sterile region we had wandered over. The transition however from the rich to the barren, from the picturesque to the contrary, was instantaneous. From the grassy woodland we had been riding through, we debouched upon a barren plain without any vegetation, and after crossing a small channel, intersected a second much larger, a little beyond it. Both creeks evidently traversed different parts of a large plain to the north, to which they had no apparent inlet. There was a long tongue of sand, rather elevated, and running up into the plain, to the termination of which we rode, and then found ourselves, as it were, in the centre of an area, that was of great extent, and appeared to be bounded on all sides, excepting that by which we had entered, by sand hills. Unconnected lines of trees marked the courses of the channels traversing it in different

directions, but as the evening had far advanced, and my object had been rather to look round about me than to make any lengthened excursion, we returned to our little bivouac, with the intention of devoting another day to the fuller examination of the neighbourhood.

On the following day I proceeded with the whole party to the westward, anticipating that the salt formation existing to the north-west was merely local, and that by thus turning a few degrees from the course on which we had before gone, we should altogether avoid it. I should not, however, have taken Joseph and Lewis with the cart, if I had not been somewhat apprehensive that the natives might visit the camp during my absence, and some misunderstanding be the consequence; for as we had hitherto found the country to the westward worse than at any other point, I was after all doubtful how far I should be able to push on.

We left the creek on a W. by N. course, the direction of the sandy ridges being to the N.N.W., so that we were obliged to cross them successively. I soon found that the country was infinitely worse than I expected. We had scarcely passed a kind of marsh at some little distance from the creek, when we once more crossed salty valleys, between high sandy ridges. The wind blowing fresh from the south, peppered us with showers of sand as we ascended the last, and carried the salt in the valleys like drifting snow from one end of them to the other,

filling our eyes and entering the pores of the skin, so as to cause us much annoyance. Before noon we had crossed eighteen of these sandy undulations, and were on the top of another, having fairly tired the horses in the ascent, and I consequently pulled up, to wait for the cart, but the heavy nature of the country had so shaken it, that the men were obliged to stop; and on examining the spokes of the wheels, I really wondered how they could have got on so far, and expected that in another half mile every one of them would be shaken out, and the cart itself fall to the ground. The spokes had shrunk to such a degree that they did not hold in the felloes and axles by more than two or three 10ths of an inch. I felt it necessary therefore to turn back to the creek, to get new spokes of such wood as we could procure, there not being a tree of any kind visible near us; but it was late ere we got back to water, and once more took up our position on the same ground we had quitted in the morning. The country we had passed was certainly such as to deter me from making a second attempt in the same quarter, and to confirm my impression that from some cause or other the interior to the westward was worse than anywhere else. Lewis, the moment we got back to the creek, set to work in good earnest, with Joseph's assistance, to repair the cart, but it necessarily delayed us longer than prudence would have allowed; in the meantime, however, we were at least deriving benefit from rest.

On mature consideration, I thought the quarter in which we should have most chance of success would be a course a little to the east of north, for the day Mr. Browne and I rode up the creek it appeared to me that the country was more open in that direction. I thought it better, however, to make for the sandy tongue of land in the centre of the plain, in which the creek appeared to take its rise, and to be guided by circumstances both in the examination of that plain, and the course I should ultimately pursue. The cart being fit for use on the morning of the 12th we again left the creek, and at four miles on an east by north course arrived at the sand hill to which I desired to go; from that point I proceeded to the N.N.W., that appearing to be the general direction of the creek upwards; but as there were lines of box-trees on both sides of us, those to our left being denser than the right, I moved for them over a plain of about five miles in breadth, but so full of cracks and fissures that we had great difficulty in crossing it. Notwithstanding, however, that the cart fell constantly into them, we got it safely over. Not finding any water under or near the trees I turned a little to the north, keeping wide of the creek; but, coming on its channel again at five miles, I halted, because there happened to be a little grass there, and we were fortunate enough, after some perseverance, to find a muddy puddle that served the horses, however unfit for our use. From the appearance

of the plain before us, I hardly anticipated success in our undertaking. We had evidently arrived near the head of the creek, and I felt assured that if the features of the country here, were similar to those of other parts of the interior, we should, between where we then were, and some distant sand hills, again find ourselves travelling over a salt formation. The evening had closed in with a cloudy sky, and the wind at W.N.W., and during the night we had two or three flying showers, but they were really in mockery of rain, nor was any vestige of it to be seen in the morning, which broke with a clear sky, and the wind from the S.E.

As soon as morning dawned we saddled our horses and made for the head of the plain, crossing bare and heavy ground until we neared the sand hills, when observing that I was leaving the creek, which I was anxious to trace up, we turned to the north-east for a line of gum-trees, but the channel was scarcely perceptible under them, and we had evidently run it out. There were only two or three solitary trees to be seen to the north, at which point the plain was bounded by sand hills. To the S.E. there was a short line of trees, from the midst of which the natives were throwing up a signal smoke, but as it would have taken me out of my way to have gone to them, I held on a N.N.W. course, and at the termination of the plain ascended a sand hill, though of no great height. From it we descended a small valley, the sides of which were

covered with samphire bushes, and the bottom by the dry white and shallow bed of a salt lagoon. From this valley we passed into a plain, in which various kinds of salsolaceous productions were growing round shallow salty basins. At a little distance from these, however, we stumbled upon a channel with some tolerable water in it, hid amongst rhagodia bushes, but the horses refused to drink. This plain communicated with that we had just left, round the N.E. point of the sand hill we had crossed but there were no box-trees on it to mark the line of any creek or water; but the sand ridge forming its northern boundary was very high, and contrary to their usual lay, ran directly across our course, and as the ascent was long and gradual, so was it some time before we got to the top. The view which then presented itself was precisely similar to the one I have already described, and from which we had before been obliged to retreat. Long parallel lines of sandy ridges ran up northwards, further than we could see, and rose in the same manner on either side. Their sides were covered with spinifex, but there was a clear space at the bottom of the valleys, and as there was really no choice we proceeded down one of them, for 12 miles, and then halted.

At this point the open space at the bottom of the valleys had all closed in, and the cart, during the latter part of the journey, had gone jolting over the tufts and circles of spinifex to the great distress of the horse; grass and water had both failed, nor could I see the

remotest chance of any change in the character of the country. It was clear, indeed, that until rain should fall it was perfectly impracticable; and with such a conviction on my mind, I felt that it would only be endangering the lives of those who were with me, if I persevered in advancing. I therefore once more determined to fall back upon the creek, there to hold my ground until such time as it should please God to send us rain. We re-entered the plain in which the creek rises at 3 P.M., and made for the trees, from whence the signal smoke was rising, and there came on a tolerable sized pond of water, at which we stopped for a short time, and while resting, ascertained that some natives were encamped at a little distance above us; but although we went to them, and endeavoured by signs and other means to obtain information, we could not succeed, they either did not or would not understand us; neither, although our manner must have allayed any fear of personal injury to themselves, did they evince the slightest curiosity, or move, or even look up when we left them. I cannot, however, think that such apparent indifference arises from a want of feeling, for that, on some points, they possess in a strong degree; but so it was, that the natives of the interior never approached our camps, however much we might encourage them. On leaving these people, of whom, if I recollect, there were seven, we tried to avoid the distressing plains we had crossed in the morning, and it was consequently late before we got to the creek and dismounted from our horses, after a

journey of about 42 miles. The 13th thus found us beaten back by difficulties such as were not to be overcome by human perseverance. I had returned to the creek with the intention of abiding the fall of rain, and was not without hopes that it would have gladdened us, for the sky about this time was very cloudy, and anywhere else but in the low country in which we were, rain most assuredly would have fallen. As it was, the clouds passed over us without breaking.

A lunar we here obtained placed us in longitude 138° 15′ 31″ E., our latitude being 25° 4′ 0″ S. Computed from these data I deem I may fairly assume we were in 24° 40′ 00″ S., and on the 138th meridian, when we stopped on the 8th; being then 470 geographical miles to the north of Mount Arden, about 350 from Mount Hopeless, and rather more than midway between the first of those hills and the Gulf of Carpentaria. My readers will perhaps bear in mind, that the object of this expedition was limited "to ascertaining the existence and the character of a supposed chain of hills, or a succession of separate hills, trending down from N.E. to S.W. and forming a great natural division of the continent." I hope I do not take too much credit to myself, if I say that I have set that question at rest; and that, considering the nature of the country into which I penetrated, no such chain can reasonably be supposed to exist. If, indeed, any mountains had really been in the direction specified, it appears to me that I must have discovered them, but, as far as my

poor opinion goes, I think the sandy ridges, both I and my readers have so much reason to hold in dread, are as extensive on one side of the Stony Desert as the other. In truth, I believe, that not only is such the case, but that the same region extends with undiminished breadth even to the great Australian Bight, which occupies a space along the south coast of the continent, as nearly as may be of equal breadth with the sea-born Desert itself; and I cannot but conclude that that remarkable wall, shewing a perpendicular front to the ocean, but sloping inwards from the coast, was thrown up simultaneously with the fossil bed of the Murray, during the time those convulsions, by which the changes in the central parts of the continent, to which I have already called attention, were going on. But I venture to give these opinions with extreme diffidence; they may be contrary to general views on the subject. I merely record my own impressions from what I have observed, in the hope that I may assist the geologist in his inferences. The ideas I would desire to convey are clear enough in my own mind, but I must confess that I feel a great difficulty in placing them so forcibly and so clearly before my readers as I could desire.

END OF VOL. I.

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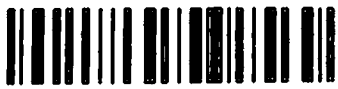
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